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VICE ADMIRAL JOEL ROBERTS POINSETT PRINGLE

FOREWORD

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Cover: Oil portrait painted by Charles Hopkinson. Presented to the Naval War College by friends and associates of Admiral Pringle who served as President, Naval War College from 1927-1930.

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VICE ADMIRAL JOEL ROBERTS POINSETT PRINGLE U.S. NAVY

Joel Roberts Poinsett Pringle was born on 4 February 1873 at his father's plantation in Georgetown County, S.C. The family plantation was named "Greenfield," and it symbolized Pringle's southern heritage. Pringle's father, Dominick Lynch Pringle, was educated at Heidelberg and served for a time as the U.S. Minister to Turkey. He married Caroline Lowndes, the daughter of a naval officer, who gave birth to Joel Roberts Poinsett Pringle shortly after the great dislocation of the Civil War. The new child was named after Joel Roberts Poinsett, a horticulturist, former Secretary of War, and relative by marriage.

Joel Pringle apparently decided upon a military career at an early age, for he was appointed from Illinois to attend the Naval Academy at Annapolis in 1888, when he was only 16. Prior to that time he had attended the Porter Military Academy in Charlestown, S.C. After his graduation from Annapolis in 1892, Pringle served for 2 years aboard the U.S.S. *Mohican*. In 1894 he was assigned to the cruiser *Minneapolis*, which participated in the scouting operations in the Spanish-American War, an operation that finally located Admiral Cervara's fleet in Santiago harbor.

In late 1898 Pringle was assigned to the school ship *Enterprise*, and in 1899 he obtained a tour of shore duty at Annapolis, the first since his commissioning. His interest in shore duty is perhaps explained by his marriage on 25 January 1899 to Cordelia Pythian, the daughter of Commodore R.L. Pythian of Lexington, Ky. This marriage produced one daughter, who also married a naval officer. Two months after his marriage, Pringle was promoted to lieutenant (junior grade), and the following year he was promoted to lieutenant.

Between 1900 and 1917 Pringle obtained some additional operational experience. His first command was the destroyer *Perkins* in the Atlantic Flotilla. He also served as the Executive Officer of the battleship *Nebraska* from 1911 to 1913, where in 1912 he received his promotion to the rank of commander. In June of 1916 he was given the command of Destroyer Divisions 3 and 4 of the Second Atlantic Flotilla. In November of 1916 he was given the command of the entire flotilla, with the tender *Melville* as his flagship.

When the United States entered the First World War in 1917, she was unaware of the full extent of the emergency caused by unrestricted submarine warfare. The British, who had insuf-

ficient destroyers to both operate with the Grand Fleet and escort merchant vessels in the Western approaches, called for American assistance. Responding to this request, the United States ordered the Second Flotilla to Queenstown, Ireland. By August of 1917, 37 destroyers and two tenders were stationed there, and Pringle, now with the temporary rank of captain, was the senior U.S. naval officer.

As British destroyers under Adm. Sir Lewis Bayley were already operating from Queenstown, some sort of joint command was desirable which would offend neither British nor American sensibilities. Admiral Sims had been designated Commander in Chief of all American naval forces operating in European waters. As Sims was required to spend most of his time in London, his Chief of Staff would have practical control over the American destroyers at Queenstown. On 9 October, Pringle was appointed as Sims' Chief of Staff at Queenstown, and his rank of captain was finally made permanent on 1 July 1918. Pringle was also designated as the Chief of Staff to Admiral Bayley and managed the logistics of the British forces as well as the American. Thus, in practice, Admiral Bayley ordered both British and American destroyers into action while Pringle served as Chief of Staff for both forces. This arrangement was criticized in America and was, in fact, extremely delicate. In addition to Pringle's responsibilities as an administrator of a multinational force, he also was required to maintain a certain degree of mutual acceptance among Admiral Bayley, Admiral Sims, and the American public. His successful welding of this heterogeneous force into an effective combat unit while retaining the favor of all parties concerned was his best performance as a naval officer, and it was accomplished only by drawing upon a very great understanding of men and a keen appreciation of their feelings.

In March of 1919 Pringle left Queenstown for the Naval War College, where he studied for a year as a student and remained for an additional year on Admiral Sims' staff. After a tour as Commanding Officer of the battleship *Idaho*, Pringle returned to the War College in 1923-1925 as Chief of Staff. In July of 1925 he was assigned as Chief of Staff to the Commanding Officer of the battleships of the Battle Fleet, and while in that assignment he received his promotion to flag rank on 6 December 1926. From 1927 to 1930 Pringle served as President of the Naval War College. In 1930 he was sent to represent the United States at the London Conference on Naval Disarmament. In May of 1932 he was given the command of Division 3 of the battleships of the Battle Fleet, and from there he rose in a few months to command all the battleships in the U.S. Navy. As a vice-admiral, Pringle was in line for Chief of Naval Operations when he died unexpectedly in San Diego on 25 September 1932. Upon Pringle's death, Admiral Bayley had this to say of him:

> He was a man of perfect tact and exceptional ability .... He was as universally liked as he was implicitly obeyed. He never once failed me during the war and was just as ready to help the British ships as American, his one idea being to do his duty; and no man ever did it better.

Recognition of Vice Admiral Pringle's outstanding service was acknowledged at the Naval War College by commemorating Pringle Hall in his honor.

CHALLENGE!

The recent decision to retire numerous obsolete U.S. Navy ships has been identified by many analysts as a potential turning point in the historical development of our Navy. This event might indeed signal the opportunity to exchange quantity of units for quality and efficiency; or it could result in the diminution of U.S. seapower.

While the Soviet Union moves to expand its naval capabilities in as many areas as possible and with a broad spectrum of modern and innovative weapons systems, the direction which our Navy will take becomes ever more crucial. If we are to continue to perform our mission, it is imperative that we be sensitive to the processes by which we have obtained and will obtain the ships and hardware we deem essential. In this context, it is enlightening to consider the Navy's program for continued modernization of the attack carrier striking force.

Recently this program was sharply challenged in the Senate. It was proposed that additional funds for the nuclear attack carrier CVAN69 not be appropriated until a comprehensive study and investigation of past and projected costs and effectiveness of attack carrier task forces be completed. This proposal was made in spite of the fact that $132 million had already been appropriated for CVAN69 as the result of a complete study made only a year ago and that a considerable portion of the $132 million has already been obligated or expended.

The proposal was defeated. It is expected that construction of CVAN69 will proceed as scheduled. However, the Senate did vote that the results of a comprehensive study and investigation be considered prior to any authorization or appropriation for the production or procurement of the third *Nimitz* class carrier, CVAN70. This study is to be completed before the end of April 1970.

It is clear from the Senate's discussion of this issue that military requests for forces will receive increasingly detailed scrutiny, particularly from the viewpoint of cost effectiveness. It is equally clear that the procedures used in systems analysis in the Department of Defense have been accepted, adapted, and put to use by the Bureau of the Budget and the Congress. Therefore, although considerable strides have been made by the military in justifying forces on the basis of cost effectiveness, the challenge remains to produce yet more cogent reasoning in the interests of still better justification.

This applies particularly to the attack carrier, and with good reason. First, some proponents of land-based airpower consider the increased capabilities of land-based air as a *raison d'etre* for fewer carriers. In failing to recognize the complementary nature of sea-based air in assuring overall airpower, they view the attack carrier only as a competitor for the scarce defense dollar. Second, as the most costly of our warships, the

attack carrier is subject to particularly close scrutiny. Reduction of the carrier force may well appear attractive to those looking for an easy way to impressive current dollar savings. Third, there are some who consider the carrier obsolete, primarily because of the Soviet missile and nuclear submarine capability.

Although the recent Senate discussion was primarily concerned with the numbers of attack carriers required, it was clearly indicated that not only unit numbers were being challenged, but the very concept of the attack carrier as well. This is hardly a new challenge. In fact, it is so familiar as to raise the question of where we have failed in making our case.

The basic need for the attack carrier seems to have been irrefutably justified for years and reinforced by experience in Korea, Lebanon, and Vietnam. Moreover, it can be pointed out that we didn't have enough carriers when World War II started nor when Korea started and that we have been stretched during the Vietnam war. And yet this in itself is not justification that we need more today. The fact remains that the attack carrier, our primary man-of-war, is figuratively but continuously under fire. It is not enough that those of us in the Navy understand the tremendous advantage of air supremacy over the oceans and our flexible ability to project this supremacy during conflicts over land areas in support of national objectives. We must convince others, those in the other services, in the Congress, in Washington, and among the American public as a whole.

This is no small task, but it is an exciting one. There are many approaches, but whichever we choose, there are certain questions that must be answered.

First, have we properly emphasized the role of seapower as a whole, the necessity for our being able to control the sealanes of communication, or have we become too intent on justifying individual phases of seapower, individual force requirements, such as attack carriers, with the result that the overall perspective is lost? Have we expounded a clear policy that defines the role the Navy must assume as a part of overall seapower? Are we adequately aware of the fact that we are no longer a self-sufficient continent but have become a kind of island, to which control of the seas is essential, too, for survival? The attack carrier's role *and that of all our naval forces,* must be justified on the basis of the Navy's strategic goals and policy. It cannot be justified properly in isolation.

Second, are we justifying the carrier too much on its past performance? Have we overstated our case by using worn-out cliches? Do we invite skepticism with undue emphasis on the irrelevant? For example, the fact that no *Essex*-class carrier was sunk during World War II is hardly convincing unless we can relate this fact with the situation as it is today. The enemy has changed; weapons have changed; our carriers have changed. Again, the significance of the fact that no attack carrier has been damaged by enemy action since World War II pales in the light of the consideration that none has been attacked. That none has been attacked *is* significant: Why have we been allowed this great advantage during both Korea and Vietnam? Again, it is important to point out that carrier-based air, by its flexibility, can avoid concentrations of land-based air, or by its ability to concentrate its air strength can outnumber and suppress land-based air in a local area. There is no argument against certain historically proven principles, but they must be adapted to the present, made relevant. Likewise, it is the fundamental principles that are important, far more than past results achieved by their application.

Finally, it is doubtful whether sufficient emphasis has been placed on the

role of the attack carrier vis-a-vis the Soviet sea threat. It is an accepted fact that carrier attack aircraft have more range and firepower than Soviet surface-to-surface missile ships and submarines. If we assume a limited war, restricted to the oceans and with the Soviets, we may ask how many attack carriers would be needed.

Because of their cost, their numbers will always be limited as at present in order to provide for other forces, to give us a balance in our overall naval capabilities. Therefore, in addition to our carriers we will need diverse new offensive and defensive weapons systems to carry out our multiple roles at sea. The needs of ASW to protect our sealanes of communication, in the face of 350 modern Soviet submarines, have high priority. Too, there is a clear need for broadening our offensive capability to supplement our 15 carriers in matching the growing and impressive Soviet inventory of some 60 surface-to-surface missile launching submarines, 20 antiship missile cruisers and destroyers, as well as some 150 Styx-armed fast patrol boats. The offensive flexibility provided by these 230 launching platforms—plus long range air-to-surface missiles from Soviet Bear aircraft—must be matched by a broader spectrum of offensive and defensive capability in our forces. And finally, our amphibious, and particularly our mining and mine countermeasure forces, need urgent attention. Here again we must be able to justify the whole range of forces we need to fulfill our mission.

And as we move towards a smaller Navy, stressing quality instead of quantity, we must always remember that one ship cannot be in two places at one time. A balance between sophistication (and cost) of our new ships and adequate numbers on the other hand must be found.

Have we become so involved with Koreas and Vietnams that in developing force requirements we place insufficient emphasis on the broad spectrum of Soviet sea capabilities? Regardless of what we hear of disarmament, detente, and rapprochement, the Soviet fleet is real and it is growing dramatically. It poses an immediate, potent, and diversified threat to our ability to carry out our mission. It is a prime consideration in the justification of our force requirements.

If we are to ensure the maintenance of forces adequate in both quality and quantity to deal with the implications of Soviet expansion on the oceans, we must be prepared to reply to exactly these kinds of issues, not only in the case of naval air, but on the sea and below it.

Richard G. Colbert

R. G. COLBERT
Vice Admiral, U.S. Navy
President, Naval War College

For centuries military planning was thought to be the exclusive right of noblemen and the highest achievement of genius and charismatic leadership. Prussia's defeat by France in 1806 led to a new view of military planning that was to prove revolutionary. To this end, the first war college was established in Berlin, and the once mysterious art of war began to be systemized and demonstrated to young officer students. The Prussian general staff became a model for the world and with it their system of planning. Since that time the military planning process has undergone continual refinement, much of it here at the Naval War College.

FROM THE KRIEGSACADEMIE TO THE NAVAL WAR COLLEGE: THE MILITARY PLANNING PROCESS

A lecture delivered at the Naval War College

by

Lieutenant Commander Charles W. Cullen, U.S. Navy

Correspondence School

To begin our discussion of the Military Planning Process at the Naval War College, we will have to cross the Atlantic and cast our minds back to the early 18th century and the personage of Frederick the Great, who was born in 1712 and reigned as the King of Prussia from 1740 to 1786. The compliments of genius and greatness have been bestowed upon Frederick by many historians and most of his biographers. His brilliance as a military tactician was most conspicuous in the innovations he brought to military organization and planning. He lightened and increased the mobility of his cavalry and artillery; and, since "God is always with the strongest battalions and battles are won by superiority of fire," he greatly increased the firepower of his deployed forces. Frederick's insights and innovations in military planning and tactics, now very obvious to us, marked in his time a new era in combat. His brilliance, coupled with boldness, led Napoleon to say of him, "He was above all great in the most critical moments."

Frederick's greatness as a tactician and field general was eclipsed in time by the feats of Napoleon, but for our purposes the point is not the greatness of Frederick nor of Napoleon, but rather the attitude and behavior of the military organizations they left behind. In 1747 Frederick wrote a manual for his officers, revised a year later under the title of *The Principles of War.* This remarkable work, written when the Prince was but 35 years old, put forth in great detail his concepts of maneuvers. It was a closely guarded document, such that each of the 50 copies was held accountable. As one would expect, some hapless officer had the misfortune of getting captured with the book. It was immediately recognized for its importance and promptly translated and widely distributed throughout Europe. This and other writings left behind by Frederick, who died in 1786, had the

fate of being elevated to near scripture by the Prussian military staff. Indeed, the process toward rigid formalism had already begun while Frederick was still alive. And, not only in the Prussian staff, but in all of the military staffs of Europe. As one contemporary historian noted:

> It has been one of the misfortunes of armies that Frederick's great reputation led to slavish imitation of the forms of the Prussian military system. Young officers from England and France attended the reviews at Potsdam and thought all the secrets of Frederick's success lay in Prussian drill, Prussian uniforms, and the shine and polish tradition. They were unable to distinguish the symbol from the substance in the Prussian army. Drill was mistaken for the art of war although Frederick never so interpreted it. He "laughed in his sleeve," says Napoleon, "at the parades of Potsdam, when he perceived young officers, French, English, and Austrian, so infatuated with the maneuver of the oblique order, which was fit for nothing except to gain a few adjutant-majors a reputation."

This blind adulation of Frederick's ideas continued apace for nearly a century after his death. In like manner the writings and memory of Napoleon were cherished by the French general staff. The results for Prussia and France were the same, namely a fall from greatness through humiliating military defeats after their leaders were dead. Prussia's refusal to change its tactics in the Napoleonic Empire Wars led to crushing defeats against inferior forces at Jena and Auerstädt in 1806. These defeats led the following year to the Treaty of Tilsit whereby Prussia lost all her territory east of the Elbe. The humiliation of this treaty brought forth a determination on the part of the Prussians to seek out and identify what had gone wrong in recent campaigns. Though an increasing percentage of the Prussian troops were enlisted from foreign countries, there was no apparent decay in the discipline of the Prussian Army. But something was amiss and had to be put aright if greatness was ever again to be achieved.

An inquiry was conducted, and the findings marked the end of the Frederick the Great era and the beginning for Prussia of a new philosophy of military planning. The Prussian staff reached the following conclusions:

1. That it was the genius of Frederick the Great that made the Prussian war machine invincible and not the organizational structure that developed around him and survived him.

2. That such genius obviously was not available on beck and call.

3. That some new methods were necessary and therefore must be generated to insure future leadership.

4. That Napoleon's system appeared to possess the same inherent weakness as theirs, namely, dependence on genius for leadership.

It appears that the staff concluded that it was safer and wiser to develop a high average of ability and leadership through training than to trust untrained commonsense or to rely upon the appearance of genius at the time of war.

The profound inference was that the art of military command could actually be taught. That was a rejection of the 18th century view that war could be carried on effectively by amateurs and that military planning and tactics were the sole provinces of charismatic leaders.

In 1810 the Prussian general staff established in Berlin, under the command of Gen. Gerhart von Sharnhorst, the *Kriegsacademie* (War Academy), for the purpose of "training officers for high command and general staff work."

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The period of study at the academy was a full 3 years! The curriculum included lectures and discussions on tactics, fortifications, administration, geography, and military law. The academy stood for the belief that men of ordinary intelligence, if properly trained and organized, could carry out any of the tasks of high command.

The success of General von Sharnhorst and those that followed him, chief among them General von Moltke, went largely unnoticed throughout Europe for nearly 60 years until the Prussians gained startling victories over Austria in 1866 and France in 1870. In both of these campaigns the efficiency and training of the Prussian officer corps and the general staff were demonstrated with such clarity that historians cite the events as the time in history when Germany replaced France as the model for all military men in Western civilization.

In 1905 Col. G.F.R. Henderson, a widely read British author of his time, commented on the impact these events had on the role of education and the teaching of the science of war:

> In all ages the power of intellect has asserted itself in War. It was not courage and experience only that make Hannibal, Alexander, and Caesar the greatest names of antiquity. Napoleon, Wellington, and the Archduke Charles were certainly the most educated soldiers of their time; while Lee, Jackson, and Sherman probably knew more of war before they made it than anyone else in the United States . . .. But it was not until 1866 and 1870 that the preponderating influence of the trained mind was made manifest. *Other wars had shown the value of an educated general, these showed the value of an educated army* . . .. The great host of Austria was shattered to fragments in seven weeks; the French Imperial Army was destroyed in seven weeks and three days. [Italics added]

Greeks, Rumanians, and Turks hiked to Berlin to study at the *Kriegsacademie*. Later in that same decade, war colleges were started in Great Britain and France. The Royal Military Staff School was established in 1873, and the *Ecole Militaire Superior* was set up in 1878.

Our own Naval War College was started under the leadership of Commodore Stephen B. Luce in 1884. It, too, was based on the Prussian model and the same notion that war was a legitimate area of study and that it could be taught and learned. Here, as in Europe, there was still debate over this idea. In the late 1800's it was widely held that generalship was the product of genius and intuition. In our own Navy, statements such as "Farragut never attended a war school" persisted. It is significant to note, however, that in the early years, when the college was still struggling for recognition and acceptance, there were no critics of the college among those officers who had attended the course. Those who criticized the college had not attended it!

Besides the Prussian notion that war could be taught and learned, Admiral Luce also held what we might call a scientistic view of history. He was confident that a systematic study of history would yield general theories of strategy. This point of view was not held by all, any more than was Prussian military thought, but it was shared by Admiral Luce and Captain Mahan. In a most valuable unpublished doctoral dissertation, entitled "Professors of War, The Naval War College and the Modern American Navy," Ronald Spector states: "Just as the 18th century philosophers had gone up and down the field of history looking for man in general so Mahan was later to go up and

down the field of naval history looking for unchanging principles of strategy."

The assumptions of the professional officer, at the turn of the century, not only differed within the military community but, as a group, were considerably different than those held by his fellow citizens. For the professional officer, war was inevitable and necessary for national survival; to the civilian, war was probably avoidable and in all cases undesirable. Moreover, if a war had to be fought, it could best be waged by a body of citizen soldiers and sailors springing romantically to arms at the last moment of danger. It was the talented and improvising amateur that best fit the American image of the military leader.

Spector adds:

> In fact the War College was fundamentally an un-American institution. Not simply in the sense that it derived its inspiration from foreign examples but in its whole concept. In every way it was opposed to traditional American ideas. It stood for the theoretical in a society which valued the practical. In an age of increasing specialization it stood for the ideal of the generalist. In a country which viewed wars as an aberration and foreign policy as a nuisance, it insisted that the two were inseparable and that they were as much the business of government as tariffs, and civil reform. It is not surprising then that Luce's hybrid European plant did not flourish in American soil. What is surprising is that it grew at all.

Added to all these difficulties was the discovery that little had been written at that time on the subject of naval tactics and strategy. One officer, after surveying the field in 1884, concluded that even the latest and best public writing on the subject was "more or less unsatisfactory." Spector comments that, in effect, the War College was established to teach a subject that did not even exist.

One area of military study did exist, however, and already enjoyed a well-developed body of literature in Europe. This was, of course, the Prussian general staff approach to military planning. At the turn of the century the subject was referred to as the "System" or as the "Estimate of the Situation." It was the beginning of what we call today the Military Planning Process.

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Having seen the concept of systemized planning germinate in Europe and that the art of war could be taught and learned, we might continue our investigation by tracing how the Estimate of the Situation was brought to Newport. There is no evidence to indicate that Admiral Luce had direct contact with members of the Prussian staff or the *Kriegsacademie*. However, we do know that Luce had made the acquaintance of Gen. Emory Upton, an Army officer of great brilliance and influence.

It was Upton who was largely responsible for bringing the German techniques of military education to the United States. He languished in the post-Civil War period and in 1876 persuaded General Sherman and the then Secretary of War Belknap to send him on an extensive tour abroad to study military institutions and techniques. He was instructed by Belknap to "pay particular attention to the German schools for the instruction of officers in strategy, good tactics and applied tactics." Upton returned home to write a book of his observations entitled *The Armies of Asia and Europe* published in 1878.

Luce met Upton the same year at the Army Artillery School which Upton headed at Fort Monroe, Va. It was here,

according to Spector, that Upton encouraged Luce to establish a college for the Navy. Admiral Luce concurred in the need for such a school but saw its potential role, not in the Upton image of a training school for staff and command techniques, but rather as a center for strategic studies and original research. The development of the War College during its early years and the arguments over its worth, purpose, and contributions is a fascinating tale, but for the task at hand we best leave Admiral Luce and move ahead to the second decade of the 20th century.

In 1912 the first article of the Estimate of the Situation was published in the September issue of the *United States Naval Institute Proceedings*, under the authorship of the "members of the staff of the United States Naval War College." This article, bearing the laborious title of "Notes on the Applicatory System of Solving War Problems with Examples Showing the Adaptation of the System to Naval Problems," marks the official beginning of the Military Planning Process in the curriculum of the Naval War College. It appears from the rough drafts, still available in the War College archives, that the article was actually written by Commander Vogelgesang, with generous assistance of McCarty Little.

Briefly, the applicatory system was described as consisting of three parts. First, the Estimate of the Situation; secondly, the Writing of Orders; and finally, the Evaluation of the Plan, either through a "map maneuver" or in the field.

Notwithstanding the rather stilted literary style of military authors in the early 1900's, today's reader of the 1912 article of the applicatory system cannot help but be struck by the formalized and elevated manner in which the "system" was discussed.

> It stands alone without a rival, and has so stood, for a hundred years . . .. It has been consecrated by success in its application to the conditions of war; and it behooves any who would seek to gain efficiency in the art to follow in the wake of its most successful teachers.

Why such reverent references to the system? Why, at this early date, at least in the United States and most certainly at Newport, had this young discipline already taken on the trappings of holy writ? The answer lies, I believe, in the theoretical foundations of the system: a number of revolutionary ideas, the acceptance of which in Berlin, Europe, Fort Leavenworth, and finally in Newport, took great foresight, courage, and no small amount of risk on the part of those officers who were now putting before their students and their service this system of military planning.

As an aside, it is interesting to note that the adoption of the applicatory system marked a swing toward a more technical orientation of the curriculum of the college, in contrast to the strategic orientation founded by Luce and Mahan. Admiral Knight commented in his 1916 history of the Naval War College that "... the 'strategic level' educational mission envisioned by Admiral Luce gradually began to succumb to 'basic professional training.'" Indeed, in Spector's view the introduction of the applicatory system was the beginning of the end of the War College as a center for original research.

The propositions that had to be accepted before the stage could be set for the presentation of the military planning process and its acceptance as part of the curriculum here and elsewhere were as follows: First, as we have already seen, was the notion that war and its planning could be taught and learned. Secondly, that subordinate officers should be given responsibility; they should be trained to obey orders, not as automatons, but rather as reasoning

men capable of and expected to further the intentions of their superiors. And finally, that a body of theory and its applications, basic to the understanding of war, its planning and execution, could be developed into what is today called doctrine. Indeed, the very concept of doctrine had to be invented to make the system work!

We have already examined in sufficient detail the development of the notion that war and military planning could be taught and learned. We have also seen how the acceptance of this idea led in part to the establishment of war colleges both here and in Europe. This leads, then, to the second idea, namely, that subordinate officers should be given responsibility and be expected to think. We view this idea today as a self-evident truth. Yet, for many officers at the turn of the century it was viewed as complete heresy and the beginning of the end of military order, discipline, and the profession of arms. For many 19th century officers the single concept of command was simply, "I command—you obey." To them, a thinking subordinate left to his own devices was downright dangerous and a hazard to discipline and authority. Further, as Henderson observed, "It was no part of their duty, they declared, to train the judgement of their subordinates; they were soldiers, and not pedagogues."

Nonetheless, as the 19th century drew to a close, the Prussians and others began to reflect, not only on the recent wars of Europe, but on the Civil War in America as well. Clearly, modern warfare with its large conscripted armies moving with increased mobility and firepower required new command and control structures.

The Prussians set out to meet these requirements by developing a new and sound system of military organization. At the outset some practical observations influenced the early designers. The new system had to recognize that an army cannot be efficiently controlled by direct orders from headquarters. The on-scene commander is often the best judge of the situation, and his intelligent cooperation is of infinitely more value than his mechanical obedience. Henderson states that it was proposed, therefore:

> . . . that no order was to be blindly obeyed unless the superior who issued it was actually present, and therefore cognizant of the situation at the time that it was received. If this was not the case, the recipient was to use his own judgement, and act as he believed his superior would have directed him to do had he been aware of how matters stood . . . . It was long before the system was accepted, even in Germany itself.

Obviously, if subordinates were to be given such responsibility, measures had to be taken to insure that their actions were structured to reflect with precision the objectives of their superiors. It was remarked that Napoleon, in criticism of his marshals, frequently made use of the statement that so and so failed "because he did not understand my system." By 1870 there were very few Prussian officers, if any, on the general staff or elsewhere in the field that ran this risk. Nearly all were thoroughly conversant with the theories and procedures taught at the academy and practiced by the staff.

As these notions developed, a body of knowledge began to emerge which supported the establishment of the system. Expectations were defined, and procedures were formalized into what we call doctrine today. In addition, junior officers were discouraged from "displaying rashness or selfish enterprise." The difference between orders and instructions was clearly defined, and finally, officers were trained to arrive at correct decisions—thus the

beginning of the Estimate of the Situation.

We begin to see then that the Estimate of the Situation, though a new development, was not nearly so remarkable for its time as the environment for which it was designed. This was a new and exciting era for military officers, but one in need of safeguards and structured command and control procedures. The Estimate of the Situation provided the guidance so necessary to control the new freedom of subordinates that was now deemed essential for modern warfare.

Our own military planning process and the published guidelines that abound in the form of NWP's and NWIP's share a rationale founded in these earlier times. It is not difficult to see the historical relationship between a current "Concept Annex" in an operation order and the letter of instructions that was delivered to a Prussian commander in the field. We can also better understand how initiative through knowledge, instead of traditional blind and inert obedience, led to the present requirement in all modern military directives for the commander to state his mission, not only in terms of tasks to be accomplished, but in terms of purpose as well.

Over time, we have come to accept the command devices at our disposal without realizing that they were not always so designed. Without some understanding of the origins of these devices and their evolution, we run the risk ourselves of adhering blindly to present doctrine in the manner of the early Prussians.

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Many planning related activities at the Naval War College influenced the first lecture on the Estimate of the Situation. The need for well-conceived war plans was profoundly recognized by members of the college staff from the earliest days of Luce and Mahan. Evidence of careful and detailed historical research on the effects of good planning—or the lack of it—is impressively reflected in a memorandum drafted in one day, 24 February 1904, by members of the staff in response to an urgent telegram from the Bureau of Navigation. President Theodore Roosevelt, through the Secretary of the Navy, desired "... historical facts and arguments showing wherein war operations carefully prepared during peace by a well organized general staff show decided superiority over those conducted by a badly organized or no staff."

Eleven campaigns were analyzed in the 31-page typed report. Capt. C.S. Sperry, the President of the college, summarized for the President that: "The failures noted are much more numerous than the successes, but it is not difficult to trace many of the failures to lack of well digested plans and the successes are notable instances of careful, intelligent, and leisurely planning in advance."

As we would expect, the report cites the Prussian campaigns against Austria and France as the "first class of illustration."

> The German General Staff under the chieftainship of von Moltke, had made the most elaborate provisions for this, as doubtless for other wars. There was nothing to do when war came except to telegraph the order to mobilize. That order received, every officer, even in the remotest part of the Kingdom of Prussia, knew precisely his duties ... and in an incredibly short space of time the German troops were pouring toward the frontier. Then another port-folio was opened and the strategical plans appeared ....

The Russo-Japanese War, then still in progress, was also cited as an example of

good planning on the part of the Japanese. The classified report continued:

> We know that Japan has a General Staff and that it is physically impossible for such a plan [the successful attack against the Russian Fleet at Port Arthur and the subsequent amphibious invasion of Korea] to have matured in all its details of mobilization and transport within a few weeks prior to the outbreak of hostilities by advisors collected on the instant, and executed faultlessly on clock time.

With refreshing candor, President Roosevelt was invited to compare Japan's performance with "the hasty purchase and makeshift outfit of all classes of vessels at the outbreak of our Spanish War of 1898, and the embarkation at Tampa."

Commenting on the Revolutionary War and the English War Ministry's lack of organization and planning, the authors of the report cited as sufficient comment the contemporary observations of our old acquaintance, Frederick the Great: "When I reflect on the conduct of that government in the war with their colonies, I am also tempted to say what the theologians maintain with regard to Providence, that their ways are not ours."

Of our own Civil War, the staff had these observations for the President:

> The war of secession 1861-65 is probably the most conspicuous example in history, certainly in recent history, of the results that flow from the lack of everything that a General Staff implies. There was no organization for the making of plans, and no plans except such as were made by one General or Admiral, superseded by those of another, these to be changed in turn by superior authority. The result was confusion, delay, loss, marching to and fro, and four years of war. Perhaps it was necessary that a great war involving the abolition of slavery should have been fought to a finish, but from a military point of view it cannot be doubted that in 1861 a small but well equipped and disciplined army could have gone anywhere North or South, and have overcome any force of volunteers hastily and imperfectly assembled to oppose it.

These historical analyses, in the tradition of Mahan, were not the only aspects of war planning entertained at the Naval War College. Members of the staff drafted actual war plans as early as 1895. In 1907 the first of a series of "War Portfolios" was prepared by the college staff in conjunction with the General Board in Washington. At this time the War College was the only agency in the Navy capable of doing general staff work! By 1911 planning requirements had become so demanding that the President of the college, Rear Adm. Raymond Rogers, advised Washington that further production of war plans for the General Board could no longer be done without prejudice to the college's role as an educational institution. Planning commitments were in time relaxed; however, the War College continued to assist the General Board until the Chief of Naval Operations assumed the role of chief war planner in 1915.

There were other factors that influenced the form and substance of the applicatory system and Comdr. Frank Marble's first lecture. In 1893, under the presidency of Comdr. Henry C. Taylor, the college staff sought to find a "comprehensive system" which would better suit the current organizational needs of the Navy. Many forms of organizations were examined, including

commercial companies, the British Board of the Admiralty, and the general staff of the German Army. Ten years later, commenting on the findings and decision, Admiral Taylor stated: "... the German methods, nearer than any other, are what are needed for us, after they have been modified to suit the different political conditions existing in this country."

Much the same conclusions were reached at the Army War College at Fort Leavenworth, where the task of modifying the German system to suit American needs was already well underway. Two pamphlets were published there that influenced the format and substance of the early lectures and publications here in Newport. The first of these was entitled *Field Orders, Messages and Reports,* written in 1906 by Maj. Eban Swift. The second, and most important, was written in 1909 by Capt. Roger S. Fitch and was entitled *Estimating Tactical Situations and Composing Orders.* Captain Fitch's work was cited and widely quoted by the Newport staff.

Fitch's form for the Estimate of the Situation consisted of the following outline:

I Mission
II The Enemy—strength, position and intentions
III Our Own Troops
IV Terrain
V Time and Space
VI Methods—advantages and disadvantages
VII Decision—"The capstone of the structure"

Fitch defined the mission as "The general purpose of the supreme command and the means through which it can be furthered."

> As the Commander's true mission should be the guiding star of all his ordered movements, it is plain that he, especially if acting independently, cannot be too careful in interpreting his orders aright and in acting in such a way as will best further the interests of his superior commanders.

Fitch cautioned his readers that the so-called "fog of war" would obscure the commander's view of enemy intentions and that therefore "the commander should make his mission and not the movement of the enemy the governing factor in planning." This good counsel was lost by all for 33 years, as we shall see later.

And so, with Admiral Taylor's decision that the German system of planning was best and armed with the Fitch outline, Commander Marble prepared and delivered the first lecture on the Estimate of the Situation to the class of 26 officer-students then attending the summer session of 1910. He introduced his subject, confident that "no amount of education and training would assure success to some, but no one can deny a careful and assiduous training is vastly beneficial even to the stupid." The lecture opened with a brief demonstration of the need for systematic study of tactical problems. Marble acknowledged that the form adopted for the estimate was "virtually the same as that adopted by the Army, somewhat condensed and modified to suit naval needs." The form for the Navy's first Estimate of the Situation consisted of four headings:

I Mission
II Position and Strength of the Enemy
III Position and Strength of Own Forces
IV Decision

Marble's form remained essentially unchanged from 1910 to 1921. The separate emphasis that Fitch gave to time and space factors, terrain considerations, and methods of

accomplishing the mission were not to appear in the Naval War College outlines for many years.

The first planning problem presented to the students in 1910 is interesting historically, and since Marble presented it concisely we can afford to quote it here:

> *Situation:* A Blue force of 15 battleships and 6 armored cruisers is steaming northeast at 12 knots to intercept a Red force of 12 battleships and 9 armored cruisers reported coming from the eastward. The Blue Admiral expects to sight the enemy's smoke in the morning. He has signalled his captains to repair on board in order to explain to them his intended plan of action. The weather is warm and clear, with smooth sea and moderate breeze from the NW. The maximum speed of the Blue battleships and cruisers may be taken at 16 and 20 knots respectively and that of the Red ships at 14 and 19.
>
> *Desired:* 1. The plan of action, and the manner and formation of approach.
>
> 2. The Blue Admiral's Estimate of the Situation showing the reasons which have led to the line of action determined upon.

Marble concluded his lecture with a detailed discussion of the writing of orders and the various forms that orders could be put into. He followed as a reference in these matters the work of Maj. Eban Swift.

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Over the years the Estimate of the Situation has evolved from Commander Marble's brief discussion to our present college text *Naval Planning* which is but a detailed commentary on the doctrinal publication, NWP 11A—*Naval Operational Planning.* Any discussion, however brief, of the various pamphlets that have been written on the subject over the years would be a lengthy and dry task, since, on the average, a new version of the estimate or its sometimes separate companion "Formulation of Orders" appeared on campus every 2 years since 1910. Changes in most revisions were usually minor with an occasional major edition appearing about every 10 years up to about 1950.

The first of these major editions appeared in 1915 under the direct authorship of Rear Adm. Austin M. Knight, then President of the college. Published by the *United States Naval Institute Proceedings* under the title "The Estimate of the Situation" and reproduced for distribution to the students, the treatise followed in outline the original form for the estimate as set down by Commander Marble in 1919. Admiral Knight was the first author at the War College to lay great stress on the necessity for a logical exposition of the problem and the need for sound reasoning. *"The Estimate is not for the purpose of justifying a decision previously arrived at. It is a reasoned solution of a problem where each step in the process approaches a decision which, without those steps, could be arrived at by accident only."* [Knight's italics]

In 1924 the form for the estimate was considerably expanded and, in the main, confused. For example, a detailed series of questions had to be answered by the commander incident to identifying his mission. In effect, this amounted to an estimate within the Estimate of the Situation. Further confusion was added in a detailed discussion on "minor decisions," seen then as missions rather than tasks. One curious oversight in earlier works, in light of the numerous German references to "purpose" as well as "task," was at least corrected in this edition. This was the

need to state the "why" as well as the "what and how" in the decision statement.

The simple logic underlying the form of the estimate was nearly lost sight of in the 1926 revision. In addition to the small estimate required for the mission in 1924, two more estimates appeared in the 1926 outline; one for enemy force considerations and the other for own forces. Compounding the confusion was the notion that the "decision" dealt with the first problem at hand only. Thus the accomplishment of one immediate mission called for the assignment of a new mission and therefore a new estimate. In effect, the estimate became a recurring process for the commander as he went from one immediate crisis to the next, hopefully in the end accomplishing the "ultimate mission of the superior." This confusion was the result of a lack of precision in defining the concept of mission. The discussion suffered from a lack of vocabulary which has since developed, namely, the distinction between the mission and its associated objectives, requirements, and tasks.

The problem began to get sorted out in 1929. In this revision, written while Rear Admiral Pringle was President of the War College, the commander's mission was defined in terms of task and purpose. The concept of "objectives" was introduced, wherein the various enemy forces which had to be encountered were identified. Finally, after "the decision" was made, the commander was to identify what "operations" would be required to carry it out. This, in turn, was the basis for making "auxiliary decisions" which included the "formulation of tasks."

In 1933 Capt. Forde A. Todd, the head of the Senior Class Strategy, wrote an excellent volume entitled *The Study and Discussion of the Estimate of the Situation.* It is noteworthy in that it carries a brief resumé of the estimate as it evolved both here and in Europe; a brief discussion of student difficulties was also included. To show the flexibility of the estimate and the order forms, Capt. R.B. Coffey transposed General Grant's letter of instructions to General Meade into the then current standard operation plan format. This done, Admiral Nelson's memorandum before Trafalgar was transposed into the battle plan format. This exercise came off rather well and must have been good sport. The entire work was admirable in that it was the first pamphlet written about the estimate from the point of view of commenting on established doctrinal procedures; nothing quite like it appears again until after 1950.

Sound Military Decision, 1942, was written under the supervision of Rear Adm. E.C. Kalbfus. This loose-bound volume in a green cover was the most lengthy and literate treatment of the subject ever written at the college. Referred to by the students as the "Green Hornet," the text discussed at a leisurely pace, not only the estimate, but the art and science of war, the necessity for logical thought, and the exercise of professional judgment. It was widely used throughout World War II. In 1944 Fleet Admiral King, as Commander in Chief, U.S. Fleet, and the Chief of Naval Operations, issued to his staff a brief excerpt of the volume under the title "Cominch P-1, Naval Directives and the Order Form."

Many terms and concepts, basic to present-day doctrine, were introduced in *Sound Military Decision* or the smaller pamphlets in the years immediately preceding it. The role of assumptions and the need for alternative plans were recognized in 1938. The testing of courses of action by suitability and feasibility criteria appeared in 1940, and the additional test for acceptability was added to this edition. In addition, the last major change to the estimate appeared in this edition.

Up until 1942 Commanders were enjoined to consider enemy actions in

the same light as their own; that is, the enemy's mission and objectives were to be deduced, if at all possible, and his probable intentions were to be determined and planned against. (In fact, up until the Knight edition in 1915, courses of action were actually considered as answers to the enemy intentions.) This concept began to weaken in 1936.

> The definite formulation of the Enemy Mission, however, is not always possible with sufficient accuracy to be of benefit. Moreover, it appears that if a choice of Missions is open to the enemy, the Commander may fall into error by choosing one to the exclusion of the others. He may, therefore, find it useful to set forth several Missions, any one of which the enemy might reasonably be expected to adopt.

By 1942 the impracticability and the danger of dealing in enemy intentions were fully recognized, and the term "enemy capabilities" came into use. "The Commander is not exclusively interested in what the enemy may intend to do, or even in what the enemy may be known at the time, to intend to do; such intentions are subject to change, and do not therefore, cover the whole field of capabilities."

The experiences of large naval staffs during World War II pointed up the need for comprehensive service-wide planning documents. After the war, efforts of the college staff were directed toward this end. In a memorandum for the staff, dated 12 March 1946, Admiral Spruance, then President of the college was quoted by his chief of staff as stating:

> The Estimate of the Situation should be simplified and reduced and a standard publication should be issued which is not to be changed by a shift in command of the Naval War College or by the new ideas of individuals every one or two years. In other words, a fixed meaning will grow up from midshipman to flag officer as to certain features of the Estimate of the Situation.

Under Admiral Spruance's supervision, the current War College texts on the estimate were compared with a joint text prepared by the War Department and the texts used by the other services. The comparison was favorable, and no major changes in the basic sequence of the estimate as taught at the college were deemed necessary.

The military planning process had come of age. And so, at the behest of Admiral Denfeld, then Chief of Naval Operations, Admiral Spruance submitted to Washington a rough draft of what was to become, the following year, our first doctrinal treatise on the subject—*The Naval Manual of Operational Planning.* After a number of revisions, this manual was superseded in 1953 by NWP 11—*Naval Operational Planning.*

Since that time the War College has continued to issue to its students detailed commentaries on the subject. Our most recent text is *Naval Planning 1966.* In turn, these commentaries and the discussions they stimulate among the students, both resident and correspondent, influence not only the curriculum at the War College, but the basic doctrine as well.

The Military Planning Process has evolved into an agreed sequence of formal, logical steps as outlined in the planning guides promulgated by the various services. In actual practice however, particularly under the stress of crisis, these formal steps are frequently telescoped. Indeed, this is the rule rather than the exception. Mental Estimates of the Situation and compressed Developments of the Plan can be made with confidence by the experienced

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military planner as long as the basic elements of the Military Planning Process are not slighted. For the student planner, not yet formally introduced to the process, such abbreviations, born out of impatience, not crisis, invariably lead to numerous errors, lost motion, and uncontrolled leaps of illogic.

To avoid these errors the student must be made to appreciate the need for the Military Planning Process. The frailty of man, the reasoning animal, can be demonstrated to the point of near despair, as in Captain Sperry's memorandum to President Roosevelt. On the other hand, the process should not be advertised as an infallible problem-solving system—which it is not—but rather as a logical way to conduct a thorough analysis. If, as a result, all still goes wrong, the commander will have at least made reasoned errors.

Of late, the greatest strain on military planners has been the Supervision of the Planned Action. How is the achievement of objectives measured? How are objectives altered by the course of events? When are such alterations unacceptable to a course of action being executed? At what point in the unfolding action can the commander consider his mission accomplished? These problems are not new, just more complex and vital. Without recourse to a thorough Estimate of the Situation, the foundations for value judging these problems are lacking, and reason gives way to bias and emotions. Further, within the estimate and at the very outset, special emphasis must be given to understanding the assigned mission and its military and nonmilitary implications. If these essential matters are not fully appreciated and always kept in mind, the "fog of war" will be left undispelled, and the commander's forces will be committed to seeking solutions to a problem not understood. Sixty years have not diminished the cogency of Captain Fitch's advice: "The Commander's true mission should be the guiding star of all his ordered movements."

BIOGRAPHIC SUMMARY

Lt. Comdr. Charles W. Cullen, U.S. Navy, holds a bachelor's degree in philosophy from Saint John's University, Minnesota, and a master's degree in international relations from The American University. Operational duty has included tours in the U.S.S. *Frank E. Evans* (DD 754), U.S.S. *William V. Pratt* (DLG 13), and command of the U.S.S. *Outagamie County* (LST 1073). A graduate of the School of Naval Command and Staff (Class of 1968), Lieutenant Commander Cullen is currently assigned to the faculty of the Naval War College where he is serving as the Assistant for Military Planning and Naval Operations in the Correspondence School.

Ψ

Biographic Correction: Mr. Howard R. Simpson, author of "Offshore Guerrilla Warfare" in our October issue, is currently serving as Press Adviser to the Bureau of East Asian and Pacific Affairs, State Department, and not with the Defense Intelligence Agency as was stated in his biographic summary.

Until 1965 the Japanese Government was willing to follow the lead of the United States in foreign policy while focusing its efforts on economic development. In recent years, however, the Japanese have increasingly pursued an independent policy in which an eventual military disengagement from the United States seems likely. While a temporary prolongation of the security partnership is possible, the United States should, nevertheless, seek to reduce its dependence on bases in Japan and the Ryukyus.

THE UNITED STATES–JAPAN ALLIANCE

A research paper prepared by

Commander James M. Elster, U.S. Navy

School of Naval Warfare

INTRODUCTION

Edwin Reischauer, former U.S. Ambassador to Japan, once remarked:

> During the twentieth century as a whole, no country has more consistently regarded itself as in essential conflict with the United States than has Japan, and no country has been more uniformly looked upon as a potential enemy by Americans. The burden of proof, perhaps, should rest on those who assume Japanese-American friendship rather than those who expect the contrary.[1]

With this psychological background, considerable statesmanship has been required to preserve the alliance which was cemented between the two nations in the early 1950's. It very nearly came apart in 1960, with the ratification of a new mutual security treaty, and it came under unprecedented strain in 1968, a year of major national elections in both the United States and Japan. In early October one "well-placed American source" in Tokyo was quoted as saying: "At this point, it would take a miracle to avoid the crunch coming between the two countries. It's like a Greek drama. You know it will end in tragedy, but there doesn't seem to be a damn thing being done about it."[2]

While a political confrontation may not be inevitable, it is probably no exaggeration to state that a serious crisis in confidence had crept into United States-Japanese relations by the end of 1968, with no one able to explain precisely why this had taken place. Among journalists and scholars, some attributed the deterioration of United States-Japanese relations to the conflict in Vietnam, others to conflicting economic policies, and still others to the question of future relations with Communist China.

The purpose of this essay, then, is to examine the various issues which entered into this crisis in confidence—to determine whether the emotional strains of 1968 stemmed from Vietnam alone, from conflicting but reconcilable approaches toward economic and military cooperation, or from a fundamental divergency in strategic outlook which would have occurred with or without the experience in Vietnam. Based on this assessment, some general conclusions will be advanced concerning the future course of United States-Japanese relations. Finally, this essay will consider the future status of the Ryukyus, which Prime Minister Sato is determined to resolve during his planned visit to the United States in late 1969, and the Treaty of Mutual Cooperation and Security which, after 1970, becomes subject to termination by either side on 1 year's notice.

I—THE STRATEGIC OUTLOOK OF THE UNITED STATES AND JAPAN

The Peace Settlement of 1951. From Washington's point of view, the primary motive of the 1951 Treaty of Peace with Japan was to counter a Sino-Soviet coalition in Asia by aligning Japan with the United States in world affairs. For the purposes of prudent calculations, it had to be assumed that a neutral or nonaligned Japan could not carry on normal relations with the major Communist powers without, at the same time, succumbing to demands which would be unacceptable to the West. As John Foster Dulles, the chief negotiator of the Peace Treaty, had put it, "Japan's geographical situation makes her susceptible to falling into the Communist orbit, and the West must take the initiative to prevent this from happening. Provision must be made to prevent Japan from being economically dependent on the Communist countries."[1]

What developed in the State Department Policy Planning Council was a threefold program to strengthen Japan against Communist subversion from within and to ensure that Japan's economic outlook remained "free world" rather than Communist oriented. First, the United States extended to Japan much of the logic of the European Recovery Program. Second, the U.S. Government urged American business interests to allow Japanese goods to compete with their own, not only in third markets, but inside the United States. Third, the United States endeavored, by assistance under the Point Four Program and by stimulation of private investment, to accelerate production in South and Southeast Asia so that this region would replace China and Manchuria as traditional sources of raw materials and markets for Japanese products. In the words of the late Frederick S. Dunn, "It was Allied generosity which Dulles sought to use to persuade Japan that her interests lay in the anti-Communist side."[2]

In return for this program of economic recovery and opportunity, the U.S. Government felt that Japan should assume, just as soon as possible, the main burden of its own defenses. In general, U.S. policy planners believed that a postwar Japan which was required to plan and support its own defenses would take a much more realistic view of the Sino-Soviet threat. The Japanese, however, took an opposite view on rearmament, not on moral or legal grounds, but because of the primary importance which they attached to economic recovery. In his book *Japan's Decisive Century: 1867-1967*, former Prime Minister Shigeru Yoshida summarized the rearmament issue as follows:

> Dulles argued, in connection with the problem of the nation's future security, that Japan should accept rearmament as a prior condition to the signing of a peace treaty and the restoration of its

> sovereign independence . . .. This suggestion I opposed outright because my country had not completed its economic recovery.[3]

The United States failed to acquire from Japan any firm commitment or timetable for rearmament. However, in a third area of concern to both countries —diplomatic relations with China—the Japanese yielded to the political realities in Washington. In retrospect, one Japanese scholar has written:

> Had Japan not signed the peace treaty with Taiwan in 1951, things could have been much easier. However, unless she had been willing to forego independence in 1951, it is doubtful whether she could have resisted Mr. Dulles' pressure to recognize Chiang Kai-shek's regime: for recognition of Taiwan was *sine quo non* for the ratification of the Japanese Peace Treaty by the United States Senate.[4]

To forestall Communist intimidation of Japan, the United States and Japan agreed to enter into a security treaty which, in its 1952 version, provided that U.S. Armed Forces would assist Japan in meeting internal as well as external threats to its security. In addition, the security treaty provided that U.S. forces stationed in Japan might be utilized to contribute to the maintenance of international peace and security in the Far East, an area later defined by Prime Minister Kishi as the region north of the Philippines, inclusive, as well as Japan and its surrounding area, including the Republic of Korea and the area under the control of the Republic of China.

The foregoing provisions went far toward providing the sort of flexibility desired to meet the Communist threat in Asia, but not quite as far as the United States had hoped for at the outset of negotiations. Mr. Dulles, for example, had been authorized by President Truman to explore the possibility of a multilateral arrangement for the Pacific area which would have included Japan, the Philippines, Australia, and New Zealand. He proceeded first to Tokyo where it was made clear that "Japan was unwilling to bind herself to a collective security pact which would involve Japanese forces in meeting defense commitments in the South and Southwest Pacific."[5]

The Japanese attitude toward collective security in the early postwar years is understandable. Where the Japanese had failed to establish a Greater East Asian Co-Prosperity Sphere, they had succeeded, at great cost to their homeland, in fatally undermining Western imperialism in Asia. By 1951, however, the United States was linked through NATO to all of the former European colonial powers, most of whom were trying to reestablish themselves in Asia. No Japanese Government could have assumed political commitments which tied Japan either directly or indirectly to this effort.

The question of foreign bases—a unique experience in their history—also troubled the Japanese, not only because of the indefinite duration of the 1951 Security Treaty, but also because the bases conceivably were available for atomic strikes over Communist areas. For psychological and strategic reasons, the Japanese were loath to associate themselves with a doctrine of massive retaliation. Had the Japanese Government pushed too hard on the question of bases, however, it is likely that the United States and her Pacific allies would have taken a very severe position on the Ryukyus and other islands to the south of Japan. Indeed, General MacArthur had proposed, during the early formulation of plans for a peace settlement, that the United States concentrate its postwar forces in the Ryukyus, so as to allow Japan to become the "Switzerland of the Pacific." The

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matter might have been resolved along these lines had it not been for the outbreak of hostilities in Korea during the summer of 1950 and the subsequent importance attached by both the United States and Japan to the continued presence of U.S. forces in Japan.

What eventually transpired at the San Francisco Peace Conference was Japanese acceptance of the bases under conditions which Prime Minister Yoshida refused to discuss, continued U.S. administration of the southern islands, and an understanding between the chief delegates that the United States recognized Japanese residual sovereignty over these islands. Later, this understanding would be expanded by the Eisenhower administration to a commitment to return the islands to Japanese administration as soon as tensions eased in the Far East. One final feature of the 1951 settlement is worthy of note. Japan was left technically in a state of war with Communist China and the Soviet Union, neither of which recognized the San Francisco Peace Treaty.

The 1960 Revision of the Security Treaty. Largely due to three factors—the industry of the Japanese people, the decision of the Japanese Government to avoid rapid rearmament, and heavy economic transfusions from the United States—Japan's commercial strength and international influence recovered at brisk rates throughout the 1950's. During this period, the Government of Japan monitored very carefully the overall strategic situation in East Asia. The more active the United States became in its containment policy toward Communist China, the more concerned Japan became about its relatively passive role in the 1951 security treaty. The relative increase in Communist Bloc strength vis-a-vis the West, U.S. intervention in the Straits of Taiwan and Southeast Asia, advances in nuclear strategy, and Communist propaganda convinced many Japanese that any revision of the treaty should give them a large voice in its implementation.[6]

In 1957 the Government of Japan took the initiative by suggesting that the 1951 Security Treaty had become outmoded and, therefore, required renegotiation. In outlining their case for revision of the treaty, the Government of Japan cited six areas in which new arrangements specifically were desired.

> The United States is permitted to use bases without consulting the Japanese Government for actions in other parts of the Far East that might involve Japan in a war irrespective of Japan's interests and desires.
>
> Second, the United States could bring into Japan whatever weapons she chose regardless of the wishes of the Japanese with regard to their own territory.
>
> Third, it provided for the intervention of U.S. forces in large-scale internal disturbances in Japan incompatible with the sovereign status of Japan.
>
> Fourth, there was no specific commitment by the United States to defend Japan in case of attack; the treaty provided she may defend Japan if she chooses.
>
> Fifth, it provided for a United States veto over any arrangement for the entry of the forces of a third power into Japan . . ..
>
> Finally, there was no provision for a termination of the treaty except by mutual consent.[7]

Most of the foregoing features were modified to the satisfaction of the Government of Japan, either within the revised treaty itself, in the agreed

minutes to the treaty, or in the accompanying executive agreement concerning the status of U.S. forces in Japan. The most important revision was contained in the Agreed Minute, signed by Prime Minister Kishi and Secretary of State Herter in Washington on 19 January 1960. Except in the defense of Japan, the two parties agreed that "major changes in the deployment into Japan of the United States Armed Forces, major changes in their equipment, and the use of facilities and areas in Japan as bases for military combat operations would be the subject of prior consultation with the Government of Japan." The practical effect of this understanding, which was debated at length in the U.S. Senate, was to place a Japanese veto over the use of military facilities in Japan by the United States. No military combat operations of either a tactical or strategic nature could be launched from Japan without the consent of the Japanese Government. Thereafter, the use and value of U.S. bases in Japan became limited to logistic support purposes.

Another important feature of the negotiations leading up to the 1960 treaty was the decision to deal with the status of U.S. forces in Japan in a separate executive agreement. As in the 1951 settlement, this left the door open for major revisions in the deployment of U.S. forces in and about Japan without revising the basic treaty. Put another way, it made it possible to continue the Security Treaty, with or without the presence of U.S. forces on Japanese soil.

For Japan the 1960 Treaty of Mutual Cooperation and Security had produced virtually everything they had hoped for. But the Japanese veto had an important consequence—to increase the importance of the Ryukyus as a base for U.S. military combat operations. Japan also failed to achieve an automatic U.S. response in the case of an armed attack against Japan. Article V of the treaty provided only that the United States would act to meet the common danger in accordance with its constitutional provisions and processes.

Evolution of Outlook Since 1960. Undoubtedly, the greatest strategic impact on United States-Japanese relations since 1960 has resulted from: (1) the gradual development of hostilities between Peking and Moscow, (2) the emergence in 1964 of Communist China as a threat to United States–Japanese interests in Southeast Asia, and (3) the protracted involvement of U.S. Armed Forces in Vietnam.

Initially, the Sino-Soviet conflict produced more challenges than opportunities for the United States, as Moscow and Peking seemed bent on outdoing each other as the dominant force in the international Communist movement. Between 1960 and 1964, as the scene of crisis shifted back and forth from Europe to Asia, separate, but simultaneous, pressure from the two Communist powers forced upon the U.S. Government difficult and often controversial choices with respect to the priority of American security interests and obligations.

During its first 2 years in office, the Kennedy administration concentrated on the Soviet threat, beginning with strenuous efforts to reverse predictions that the Russians would soon overtake the United States in scientific, military, and industrial power. Then, coincident with rising tensions over Berlin and the Cuban missile crisis, the Chinese Communists began to bring increasing pressure against India, joined by the North Vietnamese against their neighbors in Southeast Asia. The Kennedy administration reacted cautiously to the Asian Communist threat, depending upon multilateral aid to India and the Geneva Settlement of 1962 to maintain some semblance of regional stability.

By 1964 Soviet-American tensions had eased somewhat, but the situation in Asia had deteriorated to the point where several other Asian nations with

grievances—Pakistan against India and Indonesia against Malaysia—had aligned themselves with Peking in a coordinated policy of diplomatic and military confrontation. Also disturbing, particularly to the Japanese, was the steady progress Communist China had maintained in developing its military-industrial power, highlighted by the explosion of a nuclear device in October 1964, and the emergence of China as a strong rival of Japan in the export markets of Southeast Asia.[8]

Against the foregoing background, Prime Minister Sato of Japan clearly stood on the threshold of a major decision with respect to future relations with Mainland China. His predecessor, the ailing Prime Minister Ikeda, had sought to maneuver Japan into a position divorced of hostility toward China, and, in July 1964, Sato himself proposed that Japan deepen contacts with China in every possible way.[9] When, in November 1964, the Liberal Democratic Party met to choose a successor to Ikeda, 80 percent of the delegates reported favored recognition of the Peking Government.[10] Shortly after his election, Prime Minister Sato suggested that the United States and Japan have comprehensive discussions of the world situation at the earliest possible time.

In preparing for the January meetings in Washington, the Japanese apparently leaned toward accommodation with Peking on the premise that no other alternative would be offered by the Americans. During the course of discussions with President Johnson, however, the Prime Minister was reassured of future U.S. determination in Southeast Asia and led to abandon his earlier views toward accommodation with Peking. While refraining from any reference to the Chinese threat, the Prime Minister concluded his visit with the following commentary:

> The present political and economic instability in Asia is a most serious threat to international peace and security. Almost all of Southeast Asia today can be considered a troubled area—Vietnam, Laos, Cambodia, Malaysia, Indonesia . . .. The United States deserves the highest respect for its increasing efforts to maintain peace and stability in this part of the world.[11]

With Japan's support, the U.S. Government commenced, in the spring of 1965, the first major buildup of U.S. ground forces on the mainland of Southeast Asia.

This author will leave to historians the difficult task of determining the strategic success or failure of the U.S. commitment to Vietnam. Suffice it to say, by 1966 the prospects of a Chinese Communist coalition with anyone had completely collapsed. The Tashkent Settlement had placed the Soviet Union squarely between Pakistan and China in any move against India; the anti-Communist revolution in Indonesia had quickly removed the threat to Malaysia; and Chairman Mao's Cultural Revolution, which began in May 1966, soon took on all of the appearances of a civil war within China itself. The Vietnam conflict, however, continued to drag on to a military and political stalemate, largely as a result of Soviet intervention to sustain Hanoi's effort in South Vietnam.

Once the overall threat to Southeast Asia had subsided, the Vietnam war became more and more intolerable to Japan each day that it continued. At times it threatened to embroil Japan in a nuclear war with one or both of the major Communist powers. At other times, particularly during the 1968 presidential campaigns, it seemed to so affect American resolve that the United States never again would come to the aid of an Asian ally. Even the middle course, a protracted conventional war, was considered unsatisfactory, for it

simply reenforced and prolonged the American hold over the Ryukyus as a supporting base.

What added even greater strain to the United States-Japanese relations was the dramatic changes which were taking place in the global balance of power. The Sino-Soviet conflict had deepened to the point where competition between Moscow and Peking had been replaced by open hostility. The effects of the Cultural Revolution and the nuclear weapon development program on various sectors of the Chinese economy had led to a complete revaluation of the military-industrial threat. The withdrawal of the United Kingdom from the Middle East and the Indian Ocean area had left a military vacuum which the Soviet Union, rather than the United States, seemed destined to fill. Finally, Soviet-American agreement on a Non-Proliferation Treaty had forced upon Japan a fundamental reappraisal of its posture vis-a-vis the United States, the Soviet Union, and Communist China.

As we shall see, the cumulative effect of all of this in Japan has been a strategic debate of unparalleled proportions, comparable to those which have occurred at great watersheds in Japanese history. A similar process is occurring in the United States. What this amounts to in Japan is a search for strategic flexibility—alternative arrangements to meet the challenges of the 1970's—just at a time when the United States requires, more than anything else, some sense of strategic continuity. In this fluid situation the question is whether or not United States-Japanese bilateral relations are sufficiently strong to prevent a complete breakdown in the alliance. The answer will be found in the attitude of each nation toward economic and military cooperation in Asia.

II—THE PARTNERSHIP IN PROSPERITY

By 1968 the Japanese could look back over the past two decades with immense pride and satisfaction in the postwar economic performance of the nation. The losses of World War II had been completely wiped out by the 8-10 percent growth rates of the 1950's and 1960's; the nation had risen to third place among the world's industrial powers; the purchasing power of Japan had become as large as the aggregate purchasing power of Asia, excluding Communist China; and the Japanese people stood on the threshold of unparalleled advances in social welfare. The Japanese economy has reached the point, however, where future expansion cannot be accomplished without considerable difficulty.

First, the excess of labor demand over labor supply will gain proportions in coming years; second, the rate of capital accumulation will decline as private and government spending increases on social infrastructure; third, foreign firms are showing greater resistance to the licensing of technology to Japanese firms; and, fourth, the government needs to build up its foreign reserves by $3-4 billion, from a present level of about $2 billion, in order to provide greater monetary stability. Some economists estimate that the technological gap could reduce Japan's annual growth rate by about 2 percent and the fall in savings ratio by another 1 percent.[1] Given these trends, Japan's sensitivity to foreign trade is perhaps greater than at any time in the postwar years.

Potential for Growth in United States-Japanese Economic Relations. Between 1960 and 1967 the total volume of trade between the United States and Japan increased from $2 billion to $6 billion, with the United States accounting for 30 percent of Japan's international trade by 1968. So dependent had Japan become on the economic performance of the United States that one journalist was led to comment: "Japan cannot afford an American growth rate as low as 3

perecnt."[2] Yet, this is preeisely what may happen in the next few years as the United States begins to correct the monetary and fiscal imbalances hrought about hy underfinancing the Vietnam war. Indeed, "the outlook may be an economy advancing at a very slow pace if at all."[3] If this is an accurate forecast, Japan will not find in her alliance with the United States the opportunities for economic growth so characteristic of the past two decades.

In addition to the prohlem of trade potential, Japanese and American businessmen appear to be at loggerheads over Japanese restrictions on foreign investment and the danger of American restrictions on Japanese imports. From Tokyo, American sources have described the problem as follows:

> The United States beset with an international balance of payments problem, running a heavy trade and capital deficit in dealing with Japan, is convineed that the Japanese are moving too slowly away from protcetionist trade and investment policies.
>
> The Japanese dependent on trade for survival and having their most important export market and most vital source of raw materials in the United States fear deeply that the United States is moving rapidly toward protectionism.[4]

This crisis of eonfidence which has crept into Japanese-Ameriean business relations, particularly in the powerful automotive and electronies industries, is not likely to affect the current volume of trade between the two countries, since both countries benefit enormously from this trade. However, it does cast a shadow over the prospects for future economic cooperation. Essentially, the solution to this problem hinges on Japanese willingness to allow American industries to share in the long-range economic growth potential of Japan—a solution which the Government of Japan has been extremely reticent to implement in its policies toward foreign investment in general. In 1966, for example, the total U.S. direct investment in Japan amounted to only $758 million as opposed to $1,918 million in Australia.

Development Problem of Southeast Asia. Outside the United States, the region of greatest importance to the Japanese economy is Southeast Asia which accounted for another 30 percent of Japan's trade in 1968. To maintain this pattern of trade, the Japanese have advocated, along with many distinguished Americans, a multilateral system of development whieh stresses the aeeumulation of eapital, the development of technology, and the improvement of management ability. The cost of such a program for a 5-year period (1965-1970) has been estimated by the Japanese Institute for Asian Economic Affairs to be about $5,890 million.[5]

Given Japanese dependence on Southeast Asian markets and the importanee which they had attached to development assistance, the significance of the U.S. eommitment of early 1965 was not so much the decision to fight communism in South Vietnam as the promise to underwrite the future economic development of the entire region. As President Johnson had said in his Johns Hopkins speech in April 1965,

> For our part, I will ask the Congress to join in a billion dollar American investment in this effort as soon as it is underway. And I would hope that all other industrialized countries, including the Soviet Union, will join in this effort to replace despair with hope and terror with progress.[6]

President Jobnson's promise received initial congressional approval in May

1966, when $140 million of the administration's supplemental appropriation was earmarked for the newly emerging Asian Development Bank. An additional increment of $100 million was set aside by the Japanese Diet for this undertaking, and, when the bank was established in December 1966, Mr. Takeshi Watanabe, a widely respected Japanese financier, became its first president. Two years later, however, the political situation in the United States had deteriorated to the point where the U.S. Senate refused to approve a new $200 million contribution to the Asian Development Bank and, as an added rebuff to American involvement in Southeast Asia, added $300 million to the Inter-American Development Bank. By the middle of 1968, then, it appeared to the Japanese that the United States was preparing to withdraw not only its troops, but also its dollars, from Southeast Asia.

The Lure of China Trade. The threat of a U.S. economic withdrawal from Southeast Asia coincided with a Japanese reexamination of trade relations with China. In general, the picture was one of both optimism and pessimism. On the one hand, unofficial estimates indicated that China's total volume of trade in 1971 would reach a level somewhere between $6,500 million and $8,900 million, of which Japan's share should be about $1,380 million (compared with $170 million in 1967). On the other hand, both Peking and Taipei were making it difficult for Japan to get into the China market. Mainland China insisted that it would make no large-scale contracts unless the Japanese Export-Import Bank extended credit; Nationalist China equally insisted that it would boycott Japanese trade if this were done. In the meantime, Western European businessmen were capturing a major share of the China trade, moving into some former Japanese markets and "forcing Japanese 'friendly firms' to cut their prices sharply in order to compete."[7]

During 1968 trade negotiations, the Chinese Communists went a step further by warning the Japanese that they no longer were willing to separate economics from politics. They insisted that the Japanese delegation swallow the principle that three demands be included in the trade pact: "Japan would not assume a hostile attitude toward China; would take no part in the 'plot' to form the two China's; and would in no way obstruct better Sino-Japanese relations."[8] The Memorandum Trade Agreement, concluded on 6 March 1968, included these demands, even though the volume of trade dropped 24 percent from 1967 to only $117 million.

Much of what China wanted, of course, already had been met in the declaratory policy of the Government of Japan. The Foreign Ministry had indicated that Japan would never again put military forces on the mainland of China and would take no part whatsoever in an anti-Communist alliance in Asia. Then, on 29 July 1968, Foreign Minister Miki made a major foreign policy address at the Australian National University in Melbourne, during which he softened Japan's stand even further. In this address, which later was published by the Foreign Ministry in *Japan Report*, he declared:

> No matter who rules the Continent, the alternatives for Japan's continental policy is but one. It is the good neighbor policy to promote co-existence and co-prosperity under the principle of mutual respect.
>
> The logical consequence of Japan's environment is that the fundamental guidelines for our foreign policy, whether toward China, Korea, or the Soviet Union, must be based upon

co-existence and co-prosperity, under the principles of reciprocity, equality, mutual respect, and non-intervention.[9]

Just how Foreign Minister Miki proposed to square his good neighbor policy toward China with the U.S. strategy of military containment was not spelled out. It was clear, however, that a fundamental divergency had developed once again between the United States and Japan on the question of relations with China.

Fruition of Soviet-Japanese Cooperation. In terms of opportunities for economic cooperation and worldwide influence, the Soviet Union had assumed by mid-1968 a stature in Japan second only to the United States. Moreover, the Sino-Soviet conflict had led to a situation in which Moscow, rather than Tokyo, assumed much of the initiative toward improving Japanese-Soviet relations. Equally fortuitous to Japan was the Soviet-American "detente" which enabled Tokyo to respond to the overtures without offending Washington.

In trade and economic development, Japanese-Soviet relations were clearly on the move. The 1968 Trade Agreement between the two countries settled on a total volume of $627 million, an increase of 30 percent over 1967, and joint development opportunities in Siberia went well beyond anything the Japanese might have imagined in the early 1960's. Most important, in Japanese calculations, was the fact that the Soviets seemed interested in projects which were not of the "flash-in-the-pan" type with no continuing results. A typical joint venture was the 20 July 1968 agreement on the development of forestry resources, in which Japan extended $163 million worth of industrial products on credit in return for 8 million cubic meters of processed lumber at internationally competitive prices over a 5-year period. On the drawing board was an even more ambitious project involving $400 million over a 10-year period for joint development of the Udokan copper mines. That agreements of this sort could be reached at a time when the Soviet Union and the United States were supporting opposite sides in the Vietnam conflict is one measure of the independent stance Japan had assumed by 1968. Equally significant, in terms of basic U.S. policy, was the tendency of Japan to look upon the Soviet Far East as an area of opportunity equal to if not surmounting those available in Southeast Asia.

Japan and the Middle East. In terms of vital imports, no area is as important to Japan today as is the Middle East, where petroleum accounts for 65 percent of Japan's energy. Yet, in this area, "Japan's own political influence is almost zero."[10] It is probably no exaggeration to assert that a Soviet Union which succeeded in establishing paramount influence in the Middle East, or any portion of the vital Indian-Pacific Ocean trade route, would command also a potentially crippling influence over the economy of Japan. This threat has led Edwin O. Reischauer, who maintains close contact with official Japan, to suggest that the United States begin planning now for a multinational naval force, in which Japan might eventually participate, so as to ensure the safe passage of vital resources through the Indian Ocean region.[11] In the meantime, the Japanese can only hope that their economic investments in Siberia pay political dividends in the Middle East.

An Assessment. Bearing in mind that it was American generosity which the United States attempted to use in formulating and preserving the alliance with Japan, it is clear that United States-Japanese relations are going to be put to severe tests in the next few years

as the United States considers how to balance its economic commitments at home against those overseas. Japan will be watching especially the attitude of the American people and the U.S. Government toward the Asian Development Bank in which not only Japanese yen, but also Japanese prestige, are at stake.

For its part, the Government of Japan may use the next few years to consolidate the economic gains of recent years or attempt to stroke ahead on the path of rapid expansion so characteristic of the economy through 1968. A slowdown will not he easy for a society which expresses its nationalism in terms of economic achievement. Leading Japanese economists, for example, already are considering how to double the nation's gross national produet within the next 20 years. Moreover, in the absence of heavy U.S. expenditures in Southeast Asia, there is concern among Japanese economic planners that deflationary moves in the Japanese economy will threaten the very countries that are now dependent on supplying Vietnam.[12]

Whatever the reason—a need to express their nationalism in terms of economic growth or a need to shore up the post-Vietnam economies of Southeast Asia—any effort by the Japanese to speed up, while the U.S. economy slows down, will have a profound effect on the alliance, since it appears to be primarily in Communist China, the Soviet Union, and lesser Communist states that opportunities for economic expansion loom largest.

III—THE PARTNERSHIP IN DEFENSE

Stresses and Strains of the Vietnam Conflict. As we have seen, Japan concluded in 1964-65 that it was in her national interest to support the buildup of U.S. military forces in Southeast Asia, where the combined pressure of Communist China and Indonesia had brought about a high degree of political instability throughout the region. In allowing the use of Japanese bases in support of the Vietnam war effort, Japan also could have anticipated a favorable U.S. attitude toward reversion of the Ryukyus once the Vietnam conflict was brought to a successful conclusion. Thus, *even though she was under no treaty obligation to do so*, Japan had two important reasons for extending the area of mutual security and cooperation to Southeast Asia.

In undertaking this political commitment, Japan's leaders had to be relatively confident that the war would not escalate to the point of involving Japan in a head-on confrontation between the United States and Communist China. Informed Japanese apparently convinced themselves around 1966 that adequate ground rules had been established for the air and ground war in Vietnam, for they reported:

> In February 1966, at the Sino-American conference in Warsaw, the two countries were trying to obtain each other's agreement not to fight over Vietnam. China put forward three conditions for its nonintervention: (1) no American forces to invade North Vietnam; (2) no attack should be made on or near the Chinese frontier; (3) no measures should be taken to destroy dams in the north or fight inside Hanoi city. To this America replied with a warning that should China intervene, tactical nuclear weapons would be used in the Vietnam war. On these two points the two sides reached agreement.[1]

Notwithstanding the Sino-American talks, steps were taken, between 1965 and 1967, to shore up the air defenses of Japan. In June 1965, United States-Japanese agreements were signed providing for a joint cost-sharing program for the production of equipment and

the providing of technical assistance for a base air defense ground environment (BADGE) system. Then, in late 1967, an agreement was signed providing for the production in Japan of the Hawk and Nike Hercules missile systems. A problem which concerned Japanese strategists increasingly after October 1966, however, was the Chinese nuclear missile threat, for which no satisfactory defenses were found.

As the Vietnam war dragged into a third year of intense fighting on both sides, the polarization of American politics into Hawks and Doves greatly troubled the Japanese. In early 1967 they began to concern themselves increasingly with such questions as what would happen to the southern islands (Ryukyus and Bonins) if public pressure was to force a U.S. withdrawal from Southeast Asia or a Japanese move toward neutrality. One member of the Japanese academic community described the consequences as follows:

> If Japan took a step toward neutrality before Sino-American-Soviet tensions eased, America might retreat to a defense line anchored by Okinawa at one end, the Aleutians at the other and the Bonins replacing Japan in the center. Should this happen, Japan would lie under a siege of American troops, thus reverting to the conditions which existed during the last days of the Pacific War when the Allies were preparing to storm her main islands.[2]

In May 1967 Foreign Minister Miki declared in a press interview that Japan would seek return of the Bonin Islands. The following November, during the second state visit of Prime Minister Sato, President Johnson assured the Japanese of U.S. resolve and good faith by agreeing to enter into immediate negotiations for the return of all of the southern islands except the Ryukyus. Following the state visit, a Joint Communique was issued in which:

> The Prime Minister expressed support for the United States position of seeking a just and equitable settlement and reaffirmed Japan's determination to do all it can in the search for peace. He also expressed the view that reciprocal action should be expected of Hanoi for a cessation of the bombing of North Vietnam.[3]

For a time, at least, a broad harmony of view had been restored in United States-Japanese relations. Then, in 1968, a series of events in the United States sent a shock wave through Japan. The most important of these was President Johnson's dramatic announcement to partially halt the bombing over North Vietnam (without reciprocal action) and to withdraw from the 1968 presidential race. His speech on 31 March 1968, comparable to the resignation of a Japanese Prime Minister, was widely interpreted in Japan as an admission of personal responsibility for a fundamental error in U.S. foreign policy.

In 1968 the Government of Japan also began to encounter, like officials in the United States, a serious pattern of student protests. They were antiestablishment, antiwar, and antibases. Soon violence spread to almost every facet of U.S. military activity in Japan. In this situation the Government of Japan found itself in the intolerable position of having to use strong-arm police tactics against Japanese students in order to defend foreign bases. By the middle of the year, the Liberal Democratic Party found each of the four opposition parties lined up solidly against the continued presence of U.S. bases on Japanese soil.

The first indication that the Government of Japan had reached the saturation point occurred in June 1968, when

Chief Cabinet Secretary Kimura made the following guarded statement:

> Japan does not regard U.S. military bases in Japan as being an absolute necessity for the maintenance of the security of Japan. If strategically possible, U.S. withdrawal or reduction of its bases in Japan would not prejudice Japan's security and would be basically desirable.[4]

In taking this stand, the Government of Japan was quite prepared to sacrifice the $400-500 million which flowed annually into the Japanese economy from the U.S. bases. They still had to consider, however, the impact a U.S. withdrawal would have on Japan's defense posture and continuing efforts to secure return of the Ryukyus.

Japan's Defense Posture. Coincident with the statement by Chief Cabinet Secretary Kumura, the Japan Defense Agency announced that it was drafting a white paper on "National Defense in Japan," the first to be published by the government since the end of World War II. The white paper, which is expected to outline reasons why Japan needs self-defense forces and how Japan might counter the Communist Chinese nuclear threat, will not be completed until 1969. In November 1968, however, Director General Masuda of the Japan Defense Agency indicated the general direction of Japanese thought when he expressed the view that, while Japan's defense power was "inadequate" to effectively ensure the security of Japan and neighboring nations, it would be "inadvisable" to depend heavily on the United States for national defense.[5]

As the political and economic consequences of rearmament came under growing debate within Japan, it remained absolutely taboo for any government official to speak of the possibility of a small nuclear deterrent. However, a fairly clear division of opinion on this issue began to emerge in the press and the academic community. On the one hand, there were those who concerned themselves with the possibility that a nuclear-armed Japan would find it even more difficult to get along with China. On the other hand, there was the unusually bold conclusion that, given the requirement for an expensive rearmament program, the economic arguments for a small nuclear force were not unpersuasive.[6] Lacking consensus on this vital issue, Prime Minister Sato continued to stress the importance of the U.S. nuclear umbrella while seeking Washington's agreement to reduce, if not relinquish altogether, control over the bases in Japan.

The American reaction to this proposal was summarized by Richard Halloran who had covered many of the riots and disturbances around U.S. bases during 1968:

> The American government, however, has recently begun to caution the Japanese that they cannot have it both ways. They cannot expect, goes the new policy line, to demand that American bases be withdrawn and to ask that the security treaty continue . . .. They have dropped the hint in none too subtle terms that, unless Japan is genuinely willing to allow the bases to remain and to pick up some of the economic and military burden in Asia, it may be the United States and not Japan that will seek revision of the treaty . . . .. If the Japanese Government is not willing to see bases remain in Japan, takes no action to persuade the Japanese people of the need for the bases not only for American but Japanese security, and allows anti-American public sentiment and demonstrations to increase,

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> the United States will be reluctant to give up control of Okinawa.[7]

In short, a withdrawal of Japanese support, while the Vietnam war continued, could jeopardize not only the United States-Japan Security Treaty, but also any possibility for a cooperative solution to the Ryukyus problem.

Pressure for Return of the Ryukyus. Since the early days of the alliance, there had been a very important connection, in the American view, between Japan's attitude toward the security problems of Asia and an eventual return of the Ryukyus to Japanese control. On the whole, Japanese cooperation had been very favorable until about 1967 when the ambiguities of the Vietnam conflict began to be felt in Tokyo as well as Washington. From that point on, Japanese pressure for return of the Ryukyus had become almost unmanageable. In late 1967 the U.S. Government sought to ease this pressure by agreeing not only to return the Bonin Islands but also to the establishment of a trilateral (Japanese-American-Ryukyuan) advisory committee for the purpose of removing economic and social barriers between the Ryukyus and Japan proper. Then, in February 1968, the U.S. Government took another important step toward reversion by unilaterally announcing that the Ryukyus voters would elect, for the first time, their own chief executive.

The November elections on Okinawa produced an unexpected outcome. By a vote of 227,400 to 201,236, the Ryukuan voters elected as their first chief executive, Chobya Yara, a socialist who had campaigned not only for early reversion but also for the gradual closing of U.S. military installations on Okinawa.[8] Thus, the United States found in the Ryukyus elections precisely the same problem it had encountered earlier in Japan—an official sentiment which favored the removal of U.S. bases.

Until recently it was doubtful that the economy of the Ryukyus could survive without the annual expenditures of U.S. military forces. Today, this is a questionable proposition, on two counts. First, the shortage of labor in Japan has focused attention on the need to maintain population growth, not for the militaristic reasons of the 1930's, but in order to achieve the optimum for industrial productivity.[9] In this sense, the Okinawan labor force represents a positive asset to Japanese economic planners. Second, the discovery of oil reserves in the East China Sea Basin could change the economy of the entire region and certainly eclipse whatever economic significance U.S. military installations have had in the past. Japanese development of these offshore resources cannot commence, however, until Japan regains sovereignty over the Ryukyus and, hence, jurisdiction over the Continental Shelf extending into the East China Sea.

Arms Control and Disarmament. While the Government of Japan could be strongly criticized for raising the question of U.S. bases while the Vietnam conflict continued, the U.S. Government could be accused of equally poor timing by thrusting upon Japan a nuclear nonproliferation treaty which had not taken into account Japanese views and held no real prospects for obtaining the adherence of Communist China. Insofar as the latter aspect of the treaty is concerned, the awkward position in which Japan found itself has been described as follows:

> . . . Japan is linked with the United States by the Security Treaty between the two countries and, as such, she is guaranteed by the U.S. against nuclear attack. But if she is involved in the non-proliferation treaty, which would give a general guarantee against nuclear aggression both by

> the United States and by the Soviet Union, then she has to face a tricky problem. For supposing the nuclear umbrella Japan seeks is against the Chinese "nuclear rain," the Soviet Union will have to shield Japan against nuclear threats from China. Such a set-up would be quite irrational for the Russians who have not yet scrapped the Sino-Soviet Friendship and Mutual Assistance Treaty, however far apart they may be alienated from China now.[10]

In addition to the China problem, the security assurances offered by the nuclear powers left much to be desired. The treaty itself was silent on the subject, and the draft resolution which had been introduced into the Security Council in March 1968 by the United States, the United Kingdom, and the Soviet Union committed none of the guarantors to any precise military action.

Despite the foregoing weaknesses, Japanese neutralists tended to regard the prospect of an international guarantee, *with Chinese participation*, as far superior to continued reliance on the U.S. nuclear umbrella or development of their own nuclear arsenal. The strategic concept favored by this group has been expressed as follows:

> . . . The American alliance will be replaced with an international guarantee which gives Japan her three great dreams. A Japan lightly armed, without atomic bombs, and fortified by her industrial strength, will be surrounded by a triangle of forces- United States, Soviet Union, and Chinese —each of which will have a fundamental interest in (a Japan) which remains independent and equidistant from the others. And each will know that the least aggression against a peaceful and independent Japan will see the other two acting against the aggressor.[11]

Whether a nonnuclear Japan standing at the center of an ambiguous three-sided nuclear triangle will prove palatable to defense-minded Japanese remains to be seen. The point made after mid-1968, however, was that Japan could not even explore the possibilities without some sort of diplomatic reconciliation with the Chinese. These arguments were not entirely unpersuasive for, toward the end of 1968, Washington officials began to lend open support to intensified Japanese bridge-building effort toward Peking.

Another aspect of the Non-Proliferation Treaty which has concerned the Japanese, particularly those interested in keeping all nuclear options open, is the apparent technical and economic advantages which it confers on the present nuclear weapon states. The United States sought to counter this argument, beginning in 1958, with an agreement for cooperation in the civil uses of atomic energy. Under a new agreement which was signed on 25 March 1968, the United States agreed to supply enriched uranium to fuel 13 large nuclear reactors to be built in Japan and 365 kilograms of plutonium for use by the Japanese in their research and development programs. Equally significant to the Japanese was an agreement, in 1962, to provide for a program of cooperation in the testing of experimental satellites and, in 1968, a further agreement to furnish technical data on inertial guidance systems so as to enable Japan to proceed more rapidly with plans to launch a communications satellite. The latter agreement will be of particular importance to the Japanese because of critical deficiencies they had encountered in the guidance systems of their Mu rockets.[12]

Despite significant assistance from the United States, the Japanese

continue to fret about the question of technological parity and the possible loss of economic opportunity under the treaty. As the argument goes:

> . . . nuclear powers, which are permitted to continue developing military uses for nuclear energy, are enabled to reap benefits from this aspect of nuclear research to profit from their efforts by applying such "spin-off" to the commercial world of peaceful uses.[13]

To provide a solution to the foregoing problem, the Government of Japan has sought, as a precondition for acceptance of the Non-Proliferation Treaty, Soviet-American agreement to enter into immediate consultations concerning arms control and disarmament. In addition to a diplomacy aimed at the control of nuclear technology at the source, many Japanese feel that such talks should focus on the strategic problems of Asia as well as Europe and consider within that setting such matters as restrictions on ABM systems, prohibition of underground nuclear testing, the establishment of small nuclear free zones, and hot lines linking Tokyo with Washington, Peking, and Moscow. While some Japanese may be sincere in stressing these arms control objectives, the practical effect of such demands is to buy time for those Japanese who believe that, within 5 or 10 years, popular opinion can be brought around to a general acceptance of a national nuclear force.

An Assessment. The United States-Japanese security partnership came under unprecedented strain in 1968, so much so that by the middle of the year the Japanese Government appeared to be making preparations for a complete military disengagement from the United States. The pressure to return the Ryukyus before a Vietnam settlement, the expressed desire that the United States remove its forces from Japanese soil, the thorough review of Japan's defense posture, the acceleration of efforts in nuclear missile technology, and the emphasis on accommodation with Peking were all steps taken toward an independent foreign and defense posture.[14] The cause of all of this activity can be traced not only to the ambiguous position of the U.S. Government regarding the Vietnam conflict, but also to its insistence that Japan forego the nuclear option with no real prospect of a settlement with China.

Hardly noticed, but especially significant, was the growing divergency of opinion within the Liberal Democratic Party concerning future relations with the United States and China. As in late 1964, most of the conservative members of the Diet preferred to solve the China problem without sacrificing good relations with the United States. By 1968, however, the stakes for Japan had become considerably higher, embracing not only trade relations, but also fundamental questions of national security. The result was to place greater strain on the conservative leadership than at any time since 1960, leading in late 1968 to the resignation of both the Foreign Minister and the Minister of International Trade and Industry, so as to openly challenge Sato's continued leadership of the party.[15]

The victory of Prime Minister Sato over his opponents in the Liberal Democratic Party elections of November 1968 has restored some stability to United States-Japan relations. However, the security partnership will never again be what it was at the outset of the Vietnam conflict. We now find, in Japan, a nation much more inclined toward an autonomous defense posture than at any time since World War II and, in Prime Minister Sato, a statesman more firmly committed than ever to the attainment of Japan's complete independence in foreign affairs. Just how the United States and Japan will agree

on a formula for the return of the Ryukyus, at this point, is one of the topics which will be considered in the final chapter.

IV—CONCLUSION AND EVALUATION

Basic Divergencies in Strategic Outlook. Looking to the 1970's, which are very nearly upon us, it is clear that many of the strategic assumptions of the United States and Japan are going to be substantially different than they were in 1950 or even 1960.

In the first place, the Vietnam experience has convinced many Americans that there is something fundamentally wrong with a regional strategy which requires the United States to assume the military burdens while Japan channels its energy into the relatively secure business of development assistance. If the broad alliance between the two countries is to endure, then a much more representative balance will have to be struck in their respective roles.[1] Otherwise, the United States will be faced with only one choice—the progressive withdrawal of American troops from the East Asian region so as to avoid the divisive consequences of having to commit these troops to defend, once again, interests which are largely Japanese.

Second, American generosity toward Japan in the economic sphere is not likely to be in the future what it was in the past. It will be very difficult to convince the American people and the American business community that the United States has a special obligation to raise the standard of living of the Japanese people, to guarantee Japan third place in industrial power, or to enable Japan to maintain technological parity with the nuclear weapon states. This will be particularly so if Japan seeks to avoid both collective security responsibilities in Asia and opportunities for American investors to share in the economic growth potential of Japan.

Unfortunately, the dominant thrust of Japanese policy today is not toward the sharing of containment burdens in Asia, but toward a gradual military disengagement from the United States. From their perspective there are a number of reasons for wishing to defuse the alliance of its military features. Some of these reasons center around relations with China—the desire to gain access to the China market, the feeling that Japan should reach some sort of political accommodation with China, and the belief that the Sino-Soviet split is so important that Japan simply cannot afford to confront China with another enemy. Japan cannot proceed very far down this road, however, so long as the Vietnam war continues and the United States continues to rely on Japanese bases in support of that war.

Quite apart from the China problem, it will be increasingly difficult to reconcile the continued presence of U.S. forces on Japanese soil with a policy which, for two decades, has pressed the Japanese to build up their own defense forces. Even at the present time, many Japanese seem convinced that they have sufficient forces to defend themselves against any likely conventional threat. This leaves the United States in the position of having to rely on the nuclear umbrella argument whenever a crisis arises in base relations. But this is not a very enduring proposition either, for sooner or later the Japanese will decide that an autonomous nuclear force is more palatable than perpetual dependence on the United States. Already, the Japanese people are among the most "nuclear happy" people in the world in their commercial outlook and, for the first time, "the possibility of Japan going nuclear is under active discussion in Government and military circles."[2]

Whatever the future course of Japanese policy—toward a strategic accommodation with the major

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Communist powers or toward an autonomous nuclear force—it should be abundantly clear to American policy planners that no one in Japan is spending much time on the problem of preserving a U.S. military presence on Japanese soil.

Prolonging the Security Partnership. Given the attitude of the Japanese and the current reliance of U.S. forces on bases in Japan and the Ryukyus, the most that the U.S. Government can do is to buy time—to hope that a Vietnam settlement will occur soon or, if it does not, that the Japanese can be persuaded to tolerate the bases for a few years longer. Telling the Japanese that they cannot have the nuclear umbrella without the bases is one way to buy time. So were the efforts of the Johnson administration to speed up the processes for return of the Ryukyus to Japan. But these efforts were not as productive as they might have been because of the insistence in 1968 that Japan get on the nonnuclear bandwagon. Surely, if there is one area in which the Japanese need time to consider all of the alternatives, it is on the vital question of nuclear strategy. In this sense a more relaxed attitude toward the Non-Proliferation Treaty could lead to a more relaxed Japanese attitude toward the bases.

The Ryukyus present a special problem, not because of the continued conflict in Vietnam, but because of the possibility that Japan will move toward a military disengagement soon after regaining control of Okinawa. The terms of the Mutual Security Treaty, which permit Japan to renounce the Treaty on 1 year's notice after 1970, make the United States especially vulnerable to this possibility. Essentially, there is only one solution to this problem—a formal revision of the treaty so that it continues for a fixed duration of, say, 5 years after 1970. This would provide a period of stability in which to wind down the stresses and strains of the Vietnam conflict, to arrange for an orderly transfer of the Ryukyus to Japanese administration, and to program a gradual transfer of U.S. military installations to Japanese control. In the meantime, the U.S. Government could take steps necessary to reduce the heavy dependence of U.S. military forces on bases in Japan and the Ryukyus.[3]

Turning to Southeast Asia, the U.S. alternatives are much more limited. First, the United States cannot arrange a withdrawal from Vietnam which leaves all sorts of hostages to the decisions reached by Japan and the United States in 1965. To do so would cost the United States, if not Japan, an enormous amount of influence among the other Asian nations. Second, the United States may find it difficult to proceed with broad plans for the economic development of Southeast Asia until after a political settlement of the Vietnam conflict. Given the new sense of independence felt among the nations of Southeast Asia, however, there is no reason why Japan cannot maintain a healthy economic position in the area, with or without a speedy end to the Vietnam conflict. Any problems will be due not so much to the absence of opportunity as to the relative importance the Japanese attach to Southeast Asia as opposed to their other global interests.

With respect to Mainland China, the options are even more limited. The Japanese have valid reasons for wishing to enter into substantive discussions with the Communists. Yet, it seems unlikely that such discussions will amount to much unless the Japanese are prepared to make some real concessions in terms of long-term economic arrangements or diplomatic recognition. In this situation there is very little that the United States can do to assist the Japanese, and there are a number of things that the United States cannot do. As we have seen, the United States cannot arrange a withdrawal from the

Vietnam conflict if this means sacrificing the Republic of Vietnam. Equally important, the United States will have to decide which comes first: its political commitments to the Republic of China or its military ties with Japan. Certainly, any effort to place the latter above the former would be just as disastrous as a miserable withdrawal from Vietnam. About all that the United States can do is to allow the Japanese greater flexibility in their own approach to a China policy, with the understanding that the United States neither opposes nor supports whatever solution they may decide is best for Japan.

Putting Disengagement into Perspective. A military disengagement by Japan from the United States remains a very clear possibility. The Vietnam conflict has had a profound influence on Japanese-American attitudes toward the security partnership. So has the Non-Proliferation Treaty and all of the problems and prospects which it presents for Japan. But, even without Vietnam and the Non-Proliferation Treaty, the dominant trend in Japan would have been toward greater self-reliance and freedom of action in all aspects of national life. This includes the development of conventional forces sufficient to defend Japan against external attack, the present emphasis on nuclear missile technology so as to move, within the shortest time possible, toward an autonomous nuclear force, and the careful avoidance of security responsibilities in Asia which tie Japan too closely to the United States. In this situation a reshaping of the Mutual Security Treaty may forestall a military disengagement, but it seems unlikely to avoid it altogether.

In terms of present and future policy planning, the principal danger is that the concept of Japanese-American cooperation, in matters of Asian security, will receive an emphasis which is no longer prudent or possible in the light of changing conditions within Japan. One example would be an effort to preserve the security partnership to the point of completely subordinating the East Asian policy of the United States to that of Japan. Another would be an effort to prolong an American military presence in Japan and the Ryukyus to the point of completely alienating the Japanese people and, eventually, their elected officials. Given these two alternatives, it would be far better to recognize that a military disengagement is not only possible, but essentially desirable, if the United States is to preserve both its influence in Japan and its influence as a Pacific power.

A dissolution of the security partnership would mark the end of an era, but not necessarily Japanese-American friendship. Since 1953, when Reischauer commented on the basic antagonisms between Japan and the United States, significant changes have taken place, the most important of which are the industrial reconstruction of Japan, the tight economic interlock which has grown between Japan and the United States, and the dependence of both

BIOGRAPHIC SUMMARY

Comdr. James M. Elster, U.S. Navy, gained his bachelor's degree in political science from Stanford University and holds a master's degree in international relations from the American University. As a graduate student, his field of research was U.S. strategy in the Indian Ocean. He is a naval aviator with experience in both attack and antisubmarine squadrons, with the staff of Commander Carrier Division 14, and from 1966 to 1968 served with the East Asia and Pacific Political Branch of the Office of the Chief of Naval Operations. Commander Elster is a graduate of the Naval War College, School of Naval Warfare (Class of 1969), and is currently serving with Air Antisubmarine Squadron 32.

countries on global patterns of trade. Indeed, it should be possible for the concept of future cooperation to focus progressively less on the defense of Japanese interests in Asia and more on the problem of maintaining a global environment in which both nations can find peace and prosperity.

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11. Translated from Robert Guillain, "Impressions d'un Sejour au Japan," *Politique Etrangere,* Sommaire 1968, p. 33.

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> Nor will England hesitate to remind Japan that she, Britain's ally, had permitted a bitter press campaign to be conducted against the British partner of the Anglo-Japanese Alliance, at one of the most critical moments of the entire war, when the Allies were being violently attacked in the West and the Russians were falling back in the East . . . . And what made the thing especially galling to the British Imperialists was the fact that this Japanese agitation was a demonstration to the world that in the opinion of the Japanese the English were not doing particularly well in the war, and that therefore Japan could do better for herself in China if no Agreement existed.

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IV–CONCLUSION AND EVALUATION

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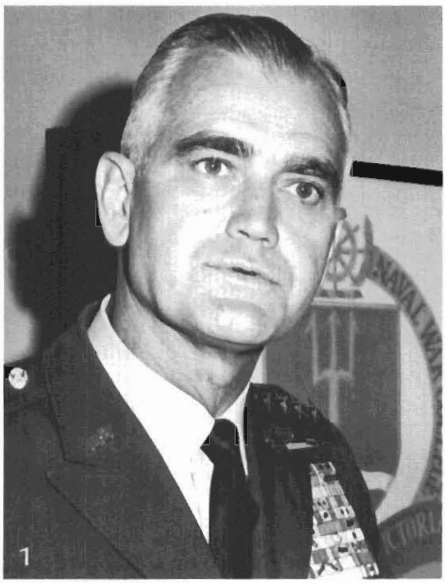
RECENT DISTINGUISHED SPEAKERS



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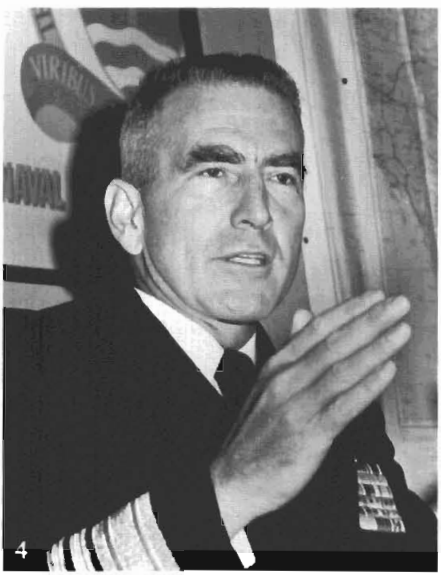

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7. Honorable Gerard C. Smith
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8. Dr. Morton H. Halperin
The Brookings Institution

(Official U.S. Navy photographs)

THE MISAPPLICATION OF A WEAPONS SYSTEM: THE BATTLE CRUISER AS A WARSHIP TYPE

In the early years of the 20th century, Sir John Fisher of the Royal Navy concluded a remarkable series of reforms which produced the dreadnought and the battle cruiser. These reforms resulted in a wholesale discarding of the obsolete vessels of the fleet and produced the prototypes for a new era in naval construction. One of these new ship types, the battle cruiser, was often misemployed during its career and, as a result, gained an undeserved reputation as a poor warship design. Its misuse was the result of a failure of communication between Sir John Fisher and the officers who decided where and how the battle cruiser would be used.

An article prepared by

Ensign Donald G. White, U.S. Naval Reserve

Correspondence School

The Development of the Battle Cruiser and Dreadnought. From the emergence of the first ironclad warships in the 1850's to the development of a relatively standardized capital ship design in the 1890's, there occurred a period of great flux in naval architecture. During this time there was a prodigious variety of ship designs, both within each respective national fleet and on a comparative basis between fleets. This was largely caused by two factors. It was during this era that both metallurgy and ordnance were making very rapid advances, and it was not unusual for ships to be obsolete before they were launched. Naval artillery progressed from the 15-inch Dahlgren aboard the second-generation Civil War monitors to the relatively advanced 12-inch gun of the 1890's. The latter employed smokeless powder, and its barrels possessed greater tensile strength, both of which added significant range to naval gunfire. Adding to gunfire development was an improvement in protective armor. The wrought iron plates of the *Virginia* were replaced by nickel alloy, and this revolution in metallurgy made itself felt in propulsion in the form of gaining greater speeds and efficiency through increased boiler pressures. This rapid advance in technology placed naval engineers and tacticians in a dilemma of how best to adapt the new revolutionary technology to ship design and fleet tactics.

A second factor which contributed to the problem of design and tactical coherence was the presence of a school of naval thought which regarded all capital ships as obsolete. In France this took the form of the Jeune Ecole, in which Adm. Theophile Aube was a major voice. As Marine Minister in 1886, Aube canceled the construction of all heavy warships, favoring instead the fast corsair cruiser and the seagoing "autonomous" torpedo boat. He hoped to use the cruisers in a manner similar to

the employment of the Confederate ship *Alabama* which reduced shipping under Union control by frightening shipowners into changing the registry of their vessels. He saw the torpedo boat equipped with the new self-propelled Whitehead torpedo as the answer to the capital ship. A group of such boats, he reasoned, could destroy any capital or merchant ship within their radius of action at small cost to themselves.[1] The result was a relaxation of capital ship construction which was felt not only in France, but throughout Europe.

By 1890, however, the situation had crystallized sufficiently so that several distinct ship types were recognizable. Alarmed by the imminent prospect of a Franco-Russian alliance, Sir William White, the British Director of Naval Construction (1885-1902), produced the *Royal Sovereign* battleship design, which served as the prototype for the predreadnought battleships of the major naval powers. No sooner was it completed than Adm. Sir Frederick Richards called for a sizable building program to create a fleet of such vessels larger than that of both France and Russia.[2] By 1905 Britain possessed approximately 40 of these predreadnought battleships. Each of these ships had good armor protection, a speed on the order of 18 knots, an armament of four 12-inch guns and eight 8-inch guns, plus an assortment of smaller weapons to be used against torpedo boats at close range. Their tonnage was approximately 16,000, and the cost of each ship of this class was approximately of 1,200,000 pounds.[3] Other powers duplicated this design in its essential characteristics with minor modifications in armament and construction. The primary purpose of such ships was to take their place in the line of battle and to participate in a gunnery duel with their opposing numbers. As effective gunnery during this period was restricted to about 4,000 yards, both the 12-inch and 8-inch would be within range, and the designers expected the heavier but slower firing big guns to inflict about the same damage as their lighter companions.

From a practical viewpoint, such armament was illogical, and it is strange that this was not noticed sooner. The presence of two gun sizes to be used over the same range produced an unnecessary diversification of ammunition size which yielded no corresponding advantages. As gunnery was restricted to this relatively short range, it would have been far better to have built ships with only one gun size. The choice of gun caliber could be determined by examining relative performance over the effective range.

The second type of vessel generally accepted as an element of the fleet at this time was the armored cruiser. The armored cruiser was in tonnage (14,000) almost the equal of the predreadnought (16,000), but its design and function were different. It was protected with armor on the sides, deck, and turrets, though this armor was usually not as thick as the predreadnought's. The speed of these vessels was 20-22 knots, 4 knots faster than the predreadnought. Armament varied widely, although the most frequent choice was four 8-inch guns. Several American vessels of this class were armed with four 10-inch guns, and others in Europe had only 6 inch.[4] This vessel had a dual function. It could either take its place in the line of battle with the predreadnought, utilizing there its armor and 8-inch guns, or it could use its superior speed to avoid battle with predreadnoughts and engage in commerce raiding or other independent missions. Its speed gave it immunity to the predreadnought, when properly handled, and its armor and guns made it more than a match for any lighter ship.

The next ship in type was the protected cruiser, so called because its defensive armor was limited to the deck and turrets.[5] Closely following this was

the light cruiser, whose light guns and lack of armor made possible increased speed. Both of these were designed for reconnaissance and independent missions.

Following the advent of the torpedo boat, a need was felt for a light vessel with quick-firing guns which could counter attacks by such ships. The result was the torpedo boat destroyer, later shortened to destroyer. Torpedoes later became standard on these vessels, and the destroyer usurped the functions of the vessel it was originally designed to counter. It also retained its original mission of preventing enemy torpedo carriers from reaching the capital ships of the fleet. To this picture was added, in 1900, a relatively effective submarine whose technological limitation at first relegated it to coast defense.

For approximately 10 years (1890-1900) naval technology remained stabilized along these lines. Beginning about the turn of the century, however, improvements in optical range finders and increased gunnery practice altered the situation in favor of the big gun.

The man who stimulated the next phase of technological advancement was Sir John Fisher, the commanding officer of the British Mediterranean Fleet from 1899 to 1902. Fisher was concerned over the poor gunnery of his command, and he attempted to remedy it by instituting long-range gunnery practice as a standard fleet activity. This policy began in 1899, when the *Caesar* engaged a 6-knot towed target at 6,000 yards. Eventually Fisher offered a Challenge Cup for the vessel displaying the most accurate gunnery. Meaningful advances in this area were made possible by the development of optical range finders at the Fleet Gunnery School at Whale Island by Sir Percy Scott.[6] Because of these new instruments plus continued practice, the range of effective gunnery was raised from 4,000 yards to 15,000 yards, the maximum range of the 12-inch gun.

It was during this era that the British fought a frustrating Boer War with questionable effectiveness and little imagination. This conflict coupled with the German naval laws of 1898 and 1900, which provided for the construction of a fleet of predreadnoughts rivaling that of Great Britain, motivated a group of English naval officers to seek reforms in their fleet. One of these was Sir John Fisher. Fisher served as Second Sea Lord from June 1902 to August 1903, and on 21 October 1904 he became First Sea Lord, responsible only to the government for the administration and operation of the Royal Navy.

It was also at this time that Parliament became restless over the fact that British naval expenditures had risen 40 percent in the last 15 years, faster than those of other naval powers. They were therefore anxious for economics, and Fisher was willing to oblige them if he could also increase or maintain the efficiency of the fleet in the process. His first step was to deactivate 154 older battleships and cruisers, most of which dated from before 1887. He followed this up by discarding a large number of small coastal patrol boats stationed in the colonies, which were incapable of combat and had been preserved only to show the flag to the natives. With the personnel thus displaced, he increased the readiness of the remaining reserve vessels laid up in the docks. The manning of these vessels was increased from a small maintenance party to two-fifths of the wartime complement, including all essential personnel. The resulting economics in repairs alone amounted to 850,000 pounds.[7]

In examining the possibilities of new battleship construction, Fisher was influenced by an article in the 1903 issue of *Jane's Fighting Ships* that suggested a warship which mounted ten 12-inch guns.[8] Such a ship would be able to open fire upon a predreadnought at a range beyond the predreadnought's 8-inch guns—the older ship could only

reply with its four 12-inch guns. If the new ship also possessed a speed advantage which allowed it to choose the range, the predreadnought's lighter 8-inch guns would be virtually useless. Thus, one capital ship mounting ten 12-inch guns would be as valuable as two or three of the older predreadnoughts and would cost only slightly more.

Acting on this reasoning, Fisher ordered the preparation of plans for the H.M.S. *Dreadnought*, the keel of which was laid in October 1905. Within a year this new ship joined the fleet, complete with the first turbine drive. This new propulsion system reduced overhaul time and gave the *Dreadnought* a speed of 21 knots, 3 knots faster than the now obsolete predrednoughts. The tonnage of the new ship was increased from 16,000 tons to 17,900 in comparison with the predreadnonghts, while the cost rose from 1.2 million pounds to 1.5 million pounds.[9] Scarcely had the *Dreadnought* completed her trials when Fisher laid down the keels for six more of the same type—the *Bellerophon, Superb, Temeraire, St. Vincent, Collingwood,* and *Vanguard.* In the first 6 months of 1909 still another three were laid down, and by August of 1911 Great Britain possessed 10 dreadnoughts, each armed with ten 12-inch guns.

Having completely altered the line of battle, Fisher next turned his attention to the other components of the fleet, one of which was the commerce raider. With a speed of 22 knots or more, the armored cruiser could still make good its escape from a dreadnought, and as a commerce raider it could only be engaged, with any reasonable hope of success, by other armored cruisers. Light cruisers or destroyers could catch the armored cruiser, but they could not outfight her. While an armed merchant ship might reasonably expect to resist an unarmored light cruiser, it was at a hopeless disadvantage vis-a-vis the armored cruiser with its 8-inch guns and substantial armor protection. Fisher was also concerned over the fact that the newest German passenger liners, which boasted a speed of 23 knots, also had mounts for 6-inch guns and could be fitted out as commerce raiders in time of war.

To this double dilemma Fisher produced an intelligent solution. As the 12-inch gun was now reliable at long ranges, why not produce a dreadnought-class vessel which sacrificed armor protection for greater speeds. Such a vessel could catch the armored cruiser or the passenger liner, choose a range outside that of the 8-inch but within its own 12-inch, and destroy the raider. Destroying corsairs would then become only a problem of locating them.

Thus the concept of the battle cruiser originated. It is important to note that such a ship was primarily designed to combat corsairs, a mission for which it would need no armor protection. It was never intended to take a place in the line of battle or to combat dreadnonghts.

In February 1906 Fisher laid down three vessels of the battle cruiser type, the *Invincible, Indomitable,* and *Inflexible.* These ships were designed for a speed of 25 knots but made 28 knots on their trials. They were armed with eight 12-inch guns and had a displacement of 17,250 tons. Fisher declined at this time to follow his idea to its logical extreme by wholly eliminating protective armor and gave the battle cruisers armorplating equal to most of the armored cruisers then in existence (6 inches on the belt and 7 inches on the turrets). In February of 1909 Fisher laid down three more battle cruisers—the *Indefatigable, Australia,* and *New Zealand,* the latter two of which were financed by their namesakes in the face of the developing naval race with Germany—of the same type, and these were completed by the middle of 1913.[10] These six ships made armored cruisers obsolete.

British Armoured Cruiser HMS *Indomitable* (1906) (*Jane's Fighting Ships,* 1909)

The reaction of Germany to this revolution of seapower was immediate and threatening, and Fisher's critics did not hesitate to condemn him for introducing a weapon which shattered, without an enemy blow, Britain's long lead in predreadnought capital ships. In July of 1906, while the *Dreadnought* was still unlaunched, Fisher's opposite number, Alfred von Tirpitz, laid down four dreadnoughts. These were the *Westfalen, Nassau, Posen,* and *Rheinland.* In accordance with Germany's usual procedure, the four were designed primarily for operations in the North Sea. Their living quarters were cramped as the crew would spend most of their nights in barracks ashore. Range was limited, and the weight thus conserved was invested in heavy armor protection and increased compartmentation. These four ships were armed with twelve 11-inch guns, which almost equaled the British 12-inch in range and penetrating power. They used reciprocating steam engines, however, which limited their top speed to 19½ knots. These ships were not completed until May of 1910, almost 4 years after the *Dreadnought* joined the fleet.

The German Government also induced the Krupp works to expand its metallurgical capabilities to the point where it could produce heavy turrets for eight dreadnoughts a year, a capacity equaled only by Great Britain.[11] Orders for this new equipment were not long in coming. The German naval law of 1908 provided for the construction of four dreadnoughts a year in 1908 and 1909, and two a year thereafter. Nine additional dreadnoughts, making a total of 13, were completed by the outbreak of the war. These last nine were fitted with turbine engines, which provided a speed of 20 knots. Their armament was increased to twelve 12-inch guns for the first four and ten 12-inch guns for the last five. Four more were completed in early 1915. (See appendix.) All of these vessels were well protected and had effective damage control procedures.

The German designers did not imitate their British competitors in battle cruiser design. By using 11-inch guns instead of 12-inch, reducing range and berthing space, and increasing tonnage slightly the Germans gave their battle cruisers a speed of 26 knots or better while retaining an armor protection equal to that of British dreadnoughts. Such ships were designed to fight with the dreadnoughts, contrary to Fisher's concept. Yet they still had the speed necessary to outrange them. The design was thus truly versatile, and the six such ships which participated in the war gave excellent service.

Surprisingly enough, the U.S. Navy Board was apparently not impressed with the battle cruiser design during the first 5 years of that design's existence. No mention of it was made in the annual reports until 1911, but in the following years the construction of such ships was recommended with increasing emphasis.[12] Not until the battle of the

Falkland Islands had demonstrated the soundness of the battle cruiser concept did the administration and Congress stir themselves sufficiently to allocate funds for the construction of such vessels.[13]

The same tardiness was not evident, however, in their evaluation of the dreadnought. While Fisher was developing the plans for the *Dreadnought*, American designers were designing the *South Carolina* and the *Michigan*, which boasted eight 12-inch guns and a speed with reciprocating engines of 18½ knots. These were begun in November of 1906 and completed in December of 1909.[14] By that time four others, with turbines and ten 12-inch guns, were in the docks. By August of 1914, 10 dreadnoughts composed the battle fleet of the United States.

While a total of nine other states built ships of the dreadnought type before 1914, only Japan followed the British and the Germans in producing battle cruisers. In January of 1911 she laid the keels of the *Kongo*, *Hi-ei*, *Haruna*, and *Kirishima*. These were completed in 1915, survived the First World War and the Washington Conference, and participated in World War II. Two of them hunted unsuccessfully for the *Repulse* and *Prince of Wales* in 1941, shortly before those ships were sunk by air attack. The four were designed by Sir George Thurston of Great Britain as slightly modified versions of the British *Lion* class of battle cruisers, and one of them, the *Kongo*, was built in a British yard. The remaining three were built in Japanese yards, and their construction there marked the end of Japan's dependence upon foreign yards for her naval construction.[15]

The British responded to the large German naval program of 1908 by designing a larger dreadnought (22,500 tons) designed to carry 13.5-inch guns in its main battery. Twelve of these were in the line or almost completed by the outbreak of the war.

The battle cruiser also shared in this increase in gun size. Four ships of the *Lion* class were completed before the outbreak of the war, boasting eight 13.5-inch guns, a speed of from 26 to 29 knots and a tonnage of 26,350 to 28,500, depending on the individual ship (see appendix). The armor protection of these vessels was slightly increased over that of the earlier *Invincible* class, but as events were to show, it was folly to deploy these ships against heavily armored dreadnoughts.

Thus, when war came in August of 1914, the British had available 18 dreadnoughts, plus two seized from Turkey which were being built in British yards, and nine battle cruisers. The Germans had ready 13 dreadnoughts and six well-armored battle cruisers.

One other significant prewar development deserves mention. In 1909 the British "raised the ante" in regards to gun size by abandoning the 12-inch gun for the 13.5-inch. In 1912 they repeated the process, this time with the 15-inch gun. This was not tremendously significant in itself, but the new ship design which accompanied it was. The tonnage of these ships, the *Queen Elizabeth* class, was raised to 27,500, and they were equipped with oil-fired boilers for the first time. But the significant feature was the speed—25 knots. This speed was only 3 knots short of the first generation of battle cruisers, and it was accomplished without any reduction of armor, range, of habitability. The lesson was plain: as the size of capital ships increased, the point would soon be reached where the dreadnought's large tonnage would allow both heavy armor protection and engines capable of the same speed as the battle cruisers. Thus the battle cruiser's original function, the destruction of fast commerce raiders, could be accomplished by the fast battleship. At that point the battle cruiser would become obsolete, and that obsolescence was already visible on the

horizon as the First World War, commenced.

The Battle Cruiser in the First World War. A major portion of the blame for the lack of success of the battle cruiser in the First World War must be laid at the door of Sir John Fisher himself. Fisher failed to convey to the British naval officer corps a firm and accurate conception of the function of the battle cruiser. In 1914 many officers had no conception of what a battle cruiser was supposed to accomplish or, worse, harbored a misconception. Adm. David Beatty, the officer in charge of the battle cruiser squadron of the Home Fleet at the beginning of the war, thought his mission was to push aside the enemy's light scout forces and to "form a fast division of the Battle Fleet."[16] Had such a lack of understanding been remedied prior to the war, the battle cruiser would never have been placed in battle opposite the dreadnought.

The first significant action involving battle cruisers took place on 28 August 1914. On that day the British sent a squadron of light cruisers to raid the German destroyers patrolling the waters around Heligoland—a small island off the German coast which had been obtained by the Germans from the British in 1890 in a colonial trade and was thereafter made into one of the strongest naval fortresses in the world. These light cruisers were intercepted by a superior force of German light cruisers and retired seaward. Beatty, waiting offshore in a support role, came to the assistance of the British force, surprised the Germans, and sank three light cruisers and three destroyers with his heavy guns before the remainder of the German force escaped.

An even more successful operation followed. At the time war was declared, the ships of the German China squadron, composed of the armored cruisers *Scharnhorst* and *Gneisenau* and the light cruisers *Leipzig*, *Nürnberg*, and *Dresden*, were operating in the Far East. These ships were commanded by Admiral Count von Spee, were manned by regulars, and in annual gunnery practice had displayed some of the best marksmanship in the German fleet. Fearing a rendezvous with the capital ships of the Japanese fleet, Spee took his squadron to South American waters.

The British officer in command of the South American Station was Rear-Admiral Sir Christopher Craddock. Craddock had under his command the old predreadnought battleship *Canopus*, the armored cruiser *Good Hope*, and the light cruisers *Monmouth*, *Glasgow*, and *Otranto*. All of these vessels were part of the reserve fleet and had recently been mobilized and manned by reservists. The squadron's speed was inferior to that of the Germans, even without the *Canopus*. Craddock had requested the dispatch of a battle cruiser to reinforce his squadron. The Admiralty, however, refused and suggested instead that he hold his squadron within range of the 12-inch guns of the *Canopus* in order to assure the safety of his ships.[17]

After receiving word of the whereabouts of the German squadron, Craddock concluded that he would have no hope of overhauling it if he were burdened with the slow *Canopus*. He therefore left the *Canopus* to escort the squadron's colliers and proceed with only his cruisers. He intercepted the German force at Coronel, and in the ensuing battle Craddock was killed and his squadron destroyed as an effective fighting force. The Germans, whose excellent gunnery carried the day, received six hits and suffered only two casualties. "The victory ought to have been Kit's [Craddock's] if they had only done what they ought, and sent the *Invincible* and *Inflexible* out to him long ago."[18]

Humiliated by this defeat, the British now proceeded to use their battle cruisers, three of which were dispatched to

destroy Spee. The *Princess Royal* was sent to the Panama Canal to block that entrance to the Atlantic, while the *Invincible* and *Inflexible* were ordered to the Falkland Islands, to which the *Canopus* had retreated. So quickly did these ships arrive that Spee was not aware of their presence in the area. Trying to reach Germany, Spee decided to stop long enough to raid the Falklands, having heard that there was a weak cruiser squadron there. Much to his surprise he discovered the *Invincible* and the *Inflexible*, which were in the process of raising steam for a sortie. Realizing the odds, Spee's squadron turned and fled.

In the ensuing battle the battle cruisers were used in exactly the manner Fisher had foreseen. They remained out of range of Spee's 8-inch guns and used their own 12-inch guns to destroy his ships. At one point in the battle, however, Spee was able to get within range by making a sudden turn while the vision of the British ships was obscured by smoke. This allowed Spee's armored cruisers to gain a few hits on the battle cruisers. These hits were not serious, however, and the range was soon opened again. The battle cruisers thus proved themselves capable of completing the type of mission for which they were designed.[19]

The outstanding success of the battle cruiser type at the Falkland Islands and at Heligoland convinced the British Admiralty that more ships of such type were needed. Fisher, now back in the Admiralty after resigning under pressure several years before, took the lead in demanding new ships of this type. Two battle cruisers were on the point of being laid down when the war began, but their construction had been halted in the belief that the war would be short. Fisher now was determined to carry the concept of the battle cruiser to its logical extreme, and he ordered the Director of Naval Construction to revise the plans for these two battle cruisers. The new design was ready on 29 December 1914. The new ships were to have a tonnage of 26,500, a speed of 32 knots, and six 15-inch guns. The armor on the belt and deck of these vessels was reduced still further, while substantial armor was left on the turrets. The result was a ship with greater speed, less armor, and fewer guns. These two vessels were laid down in January of 1915 and were completed in September of 1916 as the *Renown* and the *Repulse*.

> [This design] was conceived as a direct result of the Falkland Islands Battle and also on account of the experience gained during the action fought on the 28th of August 1914, which showed the immense value of very high speed with long-range powerful gunfire and large radius of action, which qualities, in association, enable a ship to run down those of the enemy under any circumstances, with the power of enforcing or declining action, as may be considered desirable. Features of such magnitude could only be obtained if the armour protection were comparatively light, unless very great size of ship were accepted.[20]

Winston Churchill, who was also in the Admiralty at this time, opposed the construction of these ships.

> To put the value of a first-class battleship into a vessel which cannot stand the pounding of a heavy action is a false policy. It is far better to spend the extra money and have what you really want. The battle cruiser, in other words, should be superseded by the fast battleship . . . in spite of her cost.[21]

Fisher obtained the support of Admiral Jellicoe, the commander of the Battle

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Fleet, and in the end the Cabinet overruled Churchill and authorized the two new battle cruisers.

Fisher was not satisfied with the *Renown* and the *Repulse*, but no funds were available for further capital ship construction. He therefore supervised the designing of two "large light cruisers" of 18,600 tons. These ships made 33 knots, carried four 15-inch guns, and had virtually no armor protection. They were laid down in May of 1915 and completed in January of 1917. A third ship of this class had two 18-inch guns instead of four 15-inch. These ships were named the *Courageous*, *Glorious*, and *Furious*, but they were known universally in the fleet as the Outrageous, Uproarious, and the Spurious.[22] They were the ultimate development of the battle cruiser idea, a light and economical ship that could catch and destroy enemy cruisers with its great speed and long-range fire. From a technological point of view, however, the idea was carried too far, for the spotting devices of the time needed at least six heavy guns of the same caliber to observe a fire pattern properly. After the war these ships were converted into aircraft carriers.

While the British were using their battle cruisers to destroy Admiral von Spee's squadron in the South Atlantic, the High Seas Fleet in Wilhelmshaven under Adm. Frederick von Ingenohl were using theirs for shore bombardment. On 3 November 1914, four German battle cruisers plus the armored cruiser *Blücher* sortied from their base to bombard the British coastal town of Yarmouth. The success of the raid was so encouraging that the Germans attempted a similar bombardment on 15 December accompanied by a scouting force of light cruisers and destroyers. The British, who had obtained a copy of the German code books, deciphered the wireless orders and set a trap for the German battle cruisers, commanded by Adm. Franz von Hipper.[23] Four battle cruisers commanded by Admiral David Beatty, supported by six dreadnoughts, were waiting for Hipper when on the morning of 16 December he completed his bombardment of Harwich and Humber and turned again towards Wilhelmshaven. "We went on tenterhooks to breakfast. To have this tremendous prize—the German battle cruiser squadron whose loss would fatally mutilate the whole German navy and could never be repaired—actually within our claws . . ."[24] Unknown to the Admiralty, it was the British force which was in danger, for Ingenohl had brought the High Seas Fleet out to support Hipper and was then only 10 miles from Beatty's force.

> Here at last were the conditions for which the Germans had been striving since the outbreak of the war. A few miles away on the port bow of the High Seas Fleet, isolated, and several hours steaming from home, was the most powerful homogeneous battle squadron of the Grand Fleet, the destruction of which would at one blow have completed the process of attrition and placed the British and German fleets on a precisely even footing as regards numerical strength.[25]

This situation, which had such great possibilities, ended harmlessly. Ingenohl, being incorrectly informed by his scouting forces that the entire Grand Fleet lay ahead, returned to base. Hipper, being similarly warned, changed course and escaped northward through heavy rain squalls.

In January of 1915 the Germans made a third attempt to use their battle cruisers for shore bombardment. Once again the British overheard their wireless and planned an interception with Beatty's battle cruisers. Beatty successfully made the interception and sank the slower armored cruiser *Blücher*, but

due to a signaling error the three German battle cruisers made good their escape. The Germans learned during this engagement the importance of installing antiflash protection on their ships to prevent a hit in the turret from following the ammunition train down to the magazine. This lesson the British were later to discover more painfully.

Until 1916 the British public and naval establishment fonnd little fault with the battle erniser. The victories at Heligoland and the Falklands appeared to justify the type, and few criticisms were heard. It was the Battle of Jutland that first brought the charge that the battle cruiser was poorly designed, vulnerable in combat, and a poor investment.

By May of 1916 the British Grand Fleet included 26 dreadnoughts and 9 battle cruisers plus the light cruiser and destroyer forces for scouting and torpedo work. The High Seas Fleet, now commanded by Adm. Reinhard Scheer, included 16 dreadnoughts, 5 battle cruisers, and 6 slow predreadnoughts foolishly included in the main force for sentimental reasons. Despite the excellent example of effective battle cruiser action which they had observed at the Falklands, the British still envisioned the battle cruiser as an integral part of the battle fleet rather than a special-purpose vessel. Their battle orders indicated no reluctance to use battle cruisers against enemy dreadnoughts.[26] The British battle cruisers were commanded still by Earl David Beatty, while the Third Battle Cruiser Squadron, a subdivision of his command, was commanded by the Rear Adm. Horace Hood. Adm. Hugh Evan-Thomas commanded the Fifth Battle Squadron which included all of the new 15-inch gunned superdreadnoughts of the *Queen Elizabeth* class.

In late May of 1916 Scheer made a sortie with the High Seas Fleet, hoping to draw the Grand Fleet out of its base at Scapa Flow, where there were submarines waiting, or to catch a single squadron alone. Unknown to him the Grand Fleet was already at sea, and its battle cruisers and fast superdreadnoughts were separated from the rest of the fleet by a distance of 69 miles. Contact was made between the British and German battle cruisers, and the firing began at 15,000 yards.

A series of severe disasters now ensued. The *Lion*, Beatty's flagship, took the first serious hit in one of its turrets. A fire began which a few minutes later flashed downward through the ammunition hoist until it reached the magazine. The ship was only saved hy the prompt and timely orders of Maj. F.J.W. Harvey of the Royal Marines, who, with both legs blown off, ordered the flooding of the magazines. Major Harvey received a posthumous Victoria Cross for this effort.[27] Scarcely had this occurred whn two volleys hit the *Indefatigable*. The big ship exploded almost immediately, leaving only two survivors. In all probability it suffered the fate which was narrowly averted in the *Lion*.

Beatty was now reinforced by the fast battleships of the Fifth Squadron. They entered the fray and quickly scored hits with their 15-inch guns. Fortunately for the Germans a great many of these hits exploded on the decks and sides of the ships rather than penetrating into the interior.

Up until this time the German ships had received no important hits. As Hipper later stated: "The fire of the English battle cruisers resulted in no serious damage to our battle cruisers. . . . In contrast to this, the fire of the ships of the *Malaya* class and later of ships of the main fleet created an excellent impression."[28] Encouraged, Beatty used his advantage in speed to close further. The *Queen Mary* now suffered the same fate as the *Indefatigable*, leaving only 20 survivors and bringing forth from the Beatty the immortal

comment, "There seems to be something wrong with our bloody ships today."[29]

The main body of the High Seas Fleet now appeared, and the chase turned in the other direction as Beatty attempted to draw Scheer into the Arms of the Grand Fleet. During this stage the fast battleships bore the brunt of the engagement, with the *Malaya* receiving a severe pounding and the *Barham* losing its wireless apparatus.

The Third Battle Cruiser Squadron, commanded by Horace Hood, now joined the engagement, having proceeded to the battle ahead of Jellicoe's main body. Scarcely had they arrived when the third battle cruiser disaster occurred. The *Invincible*, with Hood aboard, was struck by long-range plunging fire and exploded, apparently having received a hit in the magazine. Only six of the crew survived.

Jellicoe now came up with the main body of the British fleet, including all of the first generation dreadnoughts. Scheer, realizing the odds, turned his battle line away. Just when it appeared that he had escaped, he for obscure reasons turned his fleet again and proceeded toward the British once more. Again a hail of gunfire convinced him the odds were too great, and again he turned away.

In order to cover this move, Scheer ordered both his destroyers and his battle cruisers to attack the British line. The battle cruisers, already seriously damaged, reached a position within 7,000 yards of the British dreadnoughts before receiving a signal to retire. Miraculously, none of them were sunk or disabled. The German destroyers, however, caused Jellicoe to turn away, much to the chagrin of the more aggressive officers of the British fleet. Darkness then intervened, and during the night Scheer broke through Jellicoe's destroyer screen and made good his escape, losing the predreadnought *Pommern* in the process.

Although the Germans failed to alter the strategic situation by this engagement, they inflicted greater losses on the British than they themselves suffered. The British public, longing for a Trafalgar, was critical of the Grand Fleet, and the brunt of their criticism fell upon the battle cruiser. Three British battle cruisers were lost under circumstances which suggested inadequate protection, while the German battle cruisers received a tremendous beating but still lost only one of their number, the *Lutzow*, which had to be scuttled on the return voyage. The postmortems and evaluations which followed this battle generally concluded that the battle cruiser was poorly protected and vulnerable.

Jellicoe provided fuel for much of this criticism when he made the following statement in his official report of the battle. "The facts which contributed to the British losses were, first, the indifferent armour protection of our battle cruisers, particularly as regards turret armour and deck plating, and, second, the disadvantage under which our vessels labored in regard to the light."[30]

These criticisms, however, did not take into account several mitigating factors. Two of the three battle cruisers lost exploded due to the failure to install antiflash protection on the ammunition hoists between the turrets and the magazine. The Germans, having had a narrow escape with the *Seydlitz* early in 1915, had installed such protection and did not have a similar difficulty.[31] Presumably, if the British had installed antiflash protection these two disasters would not have occurred so readily.

On a larger scale, however, the basic problem was the employment of a weapons system in a mission for which it was not designed. The battle cruiser was not designed to fight it out with

ships that were more heavily armored than itself. It was designed to overhaul its opponents and outrange them, thus staying clear of enemy fire. In this type of action it would have no need of armor protection. It was a tactical error, therefore, to expose a battle cruiser to the fire of a heavily armored vessel, and as the German battle cruisers had sacrified radius of action for additional armor protection, it was a mistake to match them with ships of the *Invincible* or *Queen Mary* class. The *Invincible* class had only one mission, and that mission had been effectively illustrated at the Falkland Islands. Their proper deployment was not opposite the High Seas Fleet, but in the cruising squadrons which protected the British shipping lanes. The German "battle-cruisers" were, in fact, fast dreadnoughts of limited range, and the only type of vessel the British had which could counter them were the superdreadnoughts of the *Queen Elizabeth* class. It was these ships that should have met Hipper, not Beatty's *Invincibles.*

These arguments were not appreciated at the time, however. It was concluded that the battle cruiser needed more armor, and additional deck armor was added to the *Repulse* and *Renown,* still under construction. As a result these two ships were reduced in speed, making them less capable of catching commerce raiders and yet still incapable of fighting in the line. The officers of the battle cruiser fleet, chagrined at the unfavorable publicity their ships were receiving, felt that they had been used as the bait for a trap which had not been sprung due to Jellicoe's timidity.

The results of Jutland doomed, in the minds of the Admiralty, Fisher's designs for the *Courageous, Glorious,* and *Furious.* The admiralty judged that these ships, almost totally unprotected, would be even more likely to suffer the fate of the *Invincible.* That was quite true, provided anyone was so stupid as to commit them to the line of battle. As corsair hunters, however, they possessed all the virtues of the *Invincible* class, plus 5 knots additional speed and bigger guns. Despite these increments they weighed and cost no more, due to an almost total lack of armor. If the spotting problem could have been solved, they could have given excellent service in British shipping lanes against armored cruisers, light cruisers, and converted merchant vessels.

The British did not abandon, however, all construction of battle cruisers. In addition to the *Renown* and *Repulse* they now laid down the *Hood,* which was destined to suffer the same fate as its illustrious namesake. The tonnage of the *Hood* was increased dramatically in order to allow great range, more armor,

HMS *Hood* (1920) (*Brassey's,* 1923)

a speed of 31 knots, and eight 15-inch guns. Completed in March of 1920, the *Hood* was the largest ship in the Royal Navy for 20 years, a status abruptly terminated by the *Bismarck*. Although given greater armor protection than any other British battle cruiser, the *Hood* was still at a tremendous disadvantage when placed against the heavily armored 35,000 and 45,000 ton battleships of the 1940's, as events were to show.

The Battle Cruiser in the Interwar Period. The scuttling of the German High Seas Fleet at Scapa Flow in 1919 temporarily eliminated one contestant from the naval race, but it did not abate in the least the persistence of the other three. The United States in the Naval Act of 1916 authorized the construction of 10 dreadnoughts and six battle cruisers within 3 years, and, although forced to postpone this program temporarily to counter the German submarine menace, it resumed this construction after the war ended.[32] The Japanese in 1917 launched their "8-8" program, which envisaged the construction of eight battle cruisers and eight battleships, the last four of which were to displace 47,000 tons and mount eight 18-inch guns.[33] The British, whose war debts limited their capabilities in this area, nevertheless laid the keels for four new battle cruisers and completed the plans for a new class of battleship.[34]

The domestic pressure for cuts in military expenditures was great enough, however, to motivate an agreement on arms limitation. At the Washington Conference in December of 1921, the major naval powers agreed to freeze capital ship strength for 15 years and define the tonnage and armament of battleships, cruisers, and the new aircraft carriers. There was also a mutual scrapping of older ships, including all of the first generation dreadnoughts armed with 12-inch and 13.5-inch guns. This freeze resulted in the British having only 12 old battleships and three battle cruisers (the *Renown*, *Repulse*, and the *Hood*) at the commencement of World War II, while the United States was left with 14 battleships and no battle cruisers (the battle cruisers of the 1916 program whose keels had already been laid were converted into the carriers *Lexington* and *Saratoga*), and the Japanese with six battleships plus the four *Kongo* class battle cruisers. France and Italy, exhausted by the war, were not required to scrap any obsolete vessels, for their entire capital fleet consisted of such vessels. No significant new development in capital ship construction occurred for the next 7 years.

In 1928 the naval designers of the Weimar Republic modified the battle cruiser idea in order to create a lighter ship which was designed for commerce raiding. This ship, the *Deutschland*, displaced 12,100 tons and had a speed of 26 knots, greater than any battleship but not greater than the three British battle cruisers. By reducing its armor protection and using diesel engines for propulsion, the designers extended the range to 10,000 miles. Six 11-inch guns, capable of high-angle fire, were mounted in two turrets, and weight and water resistance were reduced by electric welding.[35] This ship was capable of outrunning any battleship then in existence, while it could outfight any cruiser with its 11-inch guns. Thus only a battle cruiser or a squadron of 8-inch cruisers could hope to successfully engage her. This ship was closely followed by two sister ships, the *Graf Spee* and the *Admiral Scheer*. While these ships were known as "pocket battleships," they might better have been labeled "pocket battle cruisers." They brought to light the fact that the battle cruiser idea could be employed by corsairs themselves as well as by ships seeking to destroy corsairs.

In 1934 the Hitler government laid the keels of the first full-sized battle cruiser Germany had designed since 1918. These ships were the *Scharnhorst*

and *Gneisenau*, armed with nine 11-inch guns and boasting a speed of 32 knots, sufficient to outrun the *Hood*. These two ships displaced 31,000 tons, yet their speed and armament made them dangerous to British convoys throughout the Second World War.

In 1935 the German Government adopted the Z-plan of naval construction, which provided for the construction by 1945 of a fleet of battleships and battle cruisers which would play a major role in destroying British commerce. The first two ships constructed under this program were the battleships *Bismarck* and *Tirpitz*, which equaled the *Hood* in gunpower, had much greater protection, and were only one knot slower. These were followed in 1940 by six other battleships which were never named. These ships were to displace 56,000 tons, mount eight 16-inch guns, and utilize diesel engines to gain a speed of 29 knots and an extremely long range. They were abandoned in 1940 because of the great demand for steel in other weapons.

The final big ships planned by the Germans were three unnamed battle cruisers, armed with six 15-inch guns and displacing 32,000 tons. They were powered by cruising diesels up to a speed of 25 knots, after which an auxiliary turbine raised the top speed to 33½ knots. Construction on these never began.[36]

Throughout the interwar period the French displayed a marked reluctance to rely on British seapower to contain Germany at sea, and on several occasions their parliamentarians firmly insisted that France must be able to control her vital shipping lanes without aid from the British. As a result they participated in capital ship construction also, spending resources which might better have been invested in aircraft or land armored vehicles. Following the completion of the German pocket battleship, the French laid the keel for their first battle cruiser, designed specifically to catch the *Deutschland* and her sister ships. This ship was the *Dunkerque*, which was followed closely by the *Strasbourg*. These ships were begun in December of 1932 and completed in 1938. They displaced 26,500 tons and had a top speed of 29½ knots. They mounted eight 13-inch guns, which only slightly outranged the 11-inch guns of the *Deutschland*. The *Dunkerque* and the *Strasbourg* were designed to accomplish the battle cruiser's true mission, the destruction of commerce raiders, but they fought their only major naval action at Oran against British battleships and carrier aircraft.

Thus, when the Second World War began, Britain had the same three battle cruisers allotted to her by the Washington Conference, the Germans had two battle cruisers plus their three pocket battleships, and the French had two battle cruisers designed to counter the German pocket battleships. The United States still had none.

The Demise of the Battle Cruiser. By the time the Second World War began, the battle cruiser was already obsolete as a ship type. It had been made so by two technical developments—the fast battleship and the aircraft carrier. In June of 1940 the United States laid the keel for the first ship of the *Iowa* class, which had a displacement of 45,000 tons and was armed with nine 16-inch guns. Even more important, the *Iowa* managed to combine in one ship, due to her great size, the speed of the battle cruiser and the armor of the dreadnought. Her top speed was 33 knots, two knots faster than the *Hood*. Yet the armor protection on her belt totaled 19 inches, compared to the *Hood's* 12 and the *Invincible's* 6. This one ship, therefore, could perform the missions of both battleship and battle cruiser. It could catch a raiding cruiser as well as stand in the line of battle. The battle cruiser was no longer necessary.

At the same time, the interwar years

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had seen the rapid development of carrier aviation. The disaster at Pearl Harbor, the sinking of the *Repulse* and *Prince of Wales* off Malaya, and the sinking of the Japanese 68,000 ton battleships *Yamato* and *Musashi* at Leyte Gulf and Okinawa by means of carrier airpower all revealed that a new element of naval power had come of age. The fast aircraft carrier, which could stand off further than any gunship and deliver an attack, could outperform the battle cruiser at its own mission. It could reasonably expect not only to outdistance and sink raiding cruisers, but it could do the same to the battleships themselves. Just when it appeared that the proximity fuse might once more restore the balance between the battleship and aircraft carrier, the nuclear bomb appeared and decisively ended the argument.

The United States, ironically, built its only two battle cruisers after the type was already obsolete. In December 1941, several months after the sinking of the *Hood*, the United States laid the keels of the *Alaska* and *Guam*, the only battle cruisers ever completed in this country. The two ships were launched in September of 1944, and their speed of 33 knots was no greater than the *Iowa*. They each mounted nine 12-inch guns and were highly compartmentalized to offset the lack of armor protection. These ships were the last battle cruisers ever built. The future belonged to the carrier and the submarine.

Despite its eventual demise, the battle cruiser was an effective and economical weapon for its time. In 1905 the battle cruiser made the armored cruiser

U.S. Battle Cruiser USS *Alaska* (1944) (U.S. Navy photo)

The time of the battle cruiser's passing can be readily identified by the destruction of the *Hood*. This 31,000-ton ship, the last and greatest of the British battle cruisers, was sent by the Admiralty to counterbalance the new German battleship *Bismarck*. When the *Bismarck* made its sortie and was intercepted, Jutland repeated itself. The *Bismarck's* sixth heavy salvo struck the *Hood* at a high angle and apparently penetrated its magazine. Within 2 minutes the big ship sank with heavy loss, and the days of the battle cruiser were over.

obsolete and was a potent weapon for destroying commerce raiders. This efficiency at its specific mission was illustrated at the battle of the Falkland Islands. This potency was obtained without the heavy financial sacrifice which would have been required at that time to construct a fast battleship. The battle cruiser's difficulty came not from its design, but from its utilization. The officers in charge of battle cruisers never fully realized the fallacy of exposing their weak armor to the fire of capital

ships. On the contrary, they persisted in regarding the battle cruiser as itself a capital ship rather than a specialized vessel designed for a particular purpose. This was due to a failure on the part of its creator to communicate his intentions to his subordinates.

To be used in accordance with its design capabilities, the British battle cruisers should have been deployed on the shipping lanes which were subject to raids by armored cruisers or converted fast merchantmen. It is in this environment that their speed and long-range cannon would have quickly cleared the seas of such vessels which dared to attack. No battle cruisers should have deployed with the Grand Fleet, for they would invite destruction by the fast German dreadnoughts. Such scouting capability as the battle cruiser had could readily have been performed by cheaper light cruisers and destroyers.

It is also obvious, in retrospect, that the British did not need the large numbers of battle cruisers which they constructed before and during the First World War. Three or four such vessels would have been quite adequate, as they were at the Falklands, to provide protection for the areas threatened by raiders. The remainder of the funds allocated for battle cruiser construction could better have been utilized in the construction of dreadnoughts or other vessels.

By the end of the First World War, it should have been obvious that the rapidly rising tonnage of capital ships would soon reach the point where such ships would be fast enough to usurp the battle cruiser's function. The construction of such ships as the *Hood* and the *Amagi* class of battle cruisers in Japan was shortsighted. It would have been far better to have used the resources for these vessels to make the next quantum jump in battleship tonnage which would retire the battle cruiser altogether.

In the last analysis, the history of the battle cruiser provided a classic example of the misuse of a weapons system. It is not enough to construct a weapons system with phenomenal capabilities. The personnel who man that weapon must be taught its function as well as its operation.

BIOGRAPHIC SUMMARY

Ens. Donald G. White, U.S. Naval Reserve, holds a B.A. degree from Kentucky Southern College and a master's degree in military and naval history from Duke University. At Duke he prepared his thesis under the guidance of Dr. Theodore Ropp, who held the Ernest J. King Chair of Maritime History at the Naval War College during the 1962-1963 academic year. Ensign White is presently assigned as Research Editor of the *Naval War College Review.*

FOOTNOTES

1. A good account of French naval policy during this time can be found in Dr. Theodore Ropp's unpublished Harvard dissertation, "The Development of a Modern Navy: French Naval Policy, 1871-1914" (Harvard University, Cambridge: 1937).

2. Arthur J. Marder, *From the Dreadnought to Scapa Flow: the Royal Navy in the Fisher Era, 1904-1919* (London: Oxford University Press, 1961), v. I, p. 7.

3. Randolph Pears, *British Battleships, 1892-1957* (London: Putnam, 1957), p. 47.

4. Harold H. Sprout and Margaret T. Sprout, *The Rise of American Naval Power, 1776-1918,* rev. ed. (Princeton: Princeton University Press, 1942), p. 260.

5. *Ibid.,* p. 188.

6. Marder, v. I, p. 12-13, 34-35.

7. *Ibid.,* p. 40.

8. Vittorio Cuniberti, "An Ideal Battleship for the British Fleet," *Jane's Fighting Ships, 1903* (London: Sampson Low, Marston, 1903), p. 407.

9. Pears, p. 53.

10. Marder, v. I, p. 179.

11. *Ibid.*, p. 155-157.

12. U.S. Navy Dept., *Annual Report 1911* (Washington: U.S. Govt. Print. Off., 1912), p. 39; *Annual Report 1912* (Washington: U.S. Govt. Print. Off., 1913), p. 26; *Annual Report 1913* (Washington: U.S. Govt. Print. Off., 1914), p. 29; *Annual Report 1914* (Washington: U.S. Govt. Print. Off., 1915); p. 60.

13. This was partially due to the U.S. policy of building battleships first, due to their long construction time.

14. Marder, v. 1, p. 57.

15. Anthony J. Watts, *Japanese Warships of World War II* (London: Allan, 1966), p. 13.

16. Filson Young, *With the Battle Cruisers* (London: Cassell, 1921), p. 21-22.

17. Arthur J. Marder, *From the Dreadnought to Scapa Flow; the Royal Navy in the Fisher Era, 1904-1919* (London: Oxford University Press, 1965), v. II, p. 108.

18. Admiral the Earl David Beatty, quoted in Marder, v. II, p. 129.

19. Geoffrey M. Bennett, *Naval Battles of the First World War* (New York: Scribner, 1968), p. 118.

20. Marder, v. II, p. 95.

21. Winston L.S. Churchill, *The World Crisis* (New York: Scribner, 1923), v. I, p. 132.

22. Marder, v. II, p. 96.

23. This copy of the code books was obtained from the Russians, who salvaged them from the wreck of the light German cruiser *Madgeburg*, grounded off Finland in August 1914. A section of the Admiralty known as "Room 40" was established to decipher German wireless messages.

24. Marder, v. II, p. 138.

25. *Ibid.*, p. 136.

26. Arthur J. Marder, *From the Dreadnought to Scapa Flow; the Royal Navy in the Fisher Era, 1904-1919* (London: Oxford University Press, 1966), v. III, p. 25-26.

27. *Ibid.*, p. 58-59.

28. *Ibid.*, p. 69.

29. Baron Alfred E.M.C. Chatfield, *The Navy and Defence* (London: Heinemann, 1942), p. 143.

30. Gt. Brit., Admiralty, *Battle of Jutland 30th May to 1st June 1916. Official Despatches* (London: H.M. Stationery Off., 1920), p. 2.

31. The *Seydlitz* was struck in the turret at the Dogger Bank action of January 1915. The explosion of the magazine was only prevented by the executive officer, who, on his own initiative, flooded the magazines.

32. Sprout and Sprout, p. 344-345. Congress pruned this program to five battle cruisers, but the Senate, after the news of Jutland, reinstated the program to be completed in 3 vice 5 years. The administration and the House accepted this.

33. Watts, p. 18.

34. Samuel E. Morison, *History of United States Naval Operations in World War II* (Boston: Little, Brown, 1947), v.I, p. xxxviii.

35. H.T. Lenton, *German Surface Vessels* (Garden City, N.Y.: Doubleday, 1966), v. I, p. 8.

36. *Ibid.*, p. 49-51.

APPENDIX I—DREADNOUGHT AND BATTLE CRUISER CONSTRUCTION 1905-1946

Great Britain—Dreadnoughts

Name	Tonnage	Speed (kts.)	Guns	Belt Armor	Date Completed
Dreadnought	17,900	21	10-12"	11"	Oct 1906
Bellerophon Superb Temeraire St. Vincent Collingwood Vanguard	18,600	21	10-12"	10"	Apr 1910
Neptune Colossus Hercules	19,900	21	10-12"	11"	Aug 1911
Orion Thunderer Monarch Conqueror	22,500	21	10-13.5"	12"	Nov 1912
King George V Audacious Centurion Ajax	23,000	21	10-13.5"	12"	Oct 1913
Erin (Reshadieh)	23,000	21	10-13.5"	12	Jul 1914
Agincourt (Sultan Osman I)	27,500	22	14-12"	9	Jul 1914
(latter two vessels built in British yards, seized from Turkey in 1914.)					
Iron Duke Marlborough Benbow Emperor of India	25,000	21	10-13.5"	12"	Nov 1914
Queen Elizabeth Warspite Valiant Barham Malaya	27,500	25	8-15"	13"	Feb 1916
Royal Sovereign Royal Oak Resolution Ramillies Revenge	27,500	25	8-15"	13"	Sep 1917
Nelson Rodney	33,900	23	9-16"	14"	Aug 1927
King George V Duke of York Prince of Wales Anson Howe	35,000	28	10-14"	15"	Aug 1942
Vanguard	44,500	30	8-15"	14"	Apr 1946

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APP I—DREADNOUGHT AND BATTLE CRUISER CONSTRUCTION 1905-1946 (cont'd)

Great Britain—Battle Cruisers

Name	Tonnage	Speed (kts.)	Guns	Belt Armor	Date Completed
Invincible Indomitable Inflexible	17,250	25	8-12"	6"	Oct 1908
Indefatigable Australia New Zealand	18,000	27	8-12"	6"	Jun 1913
Lion Princess Royal Queen Mary	26,350	28	8-13.5"	9"	Sep 1913
Tiger	28,500	29	8-13.5"	9"	Oct 1914
Renown Repulse	26,500	32	6-15"	6"	Sep 1916
Courageous Glorious Furious	18,600	33	4-15" 4-15" 2-18"	3"	Jan 1917
Hood	41,200	31	8-15"	10"	Mar 1920

Germany—Dreadnoughts

Westfalen Nassau Posen Rheinland	18,900	19½	12-11"	12"	May 1910
Thüringen Heligoland Ostfriesland Oldenburg	22,800	20	12-12"	12"	Jul 1912
Kaiser Friedrich der Grosse Kaiserin Prinzregent Luitpold König Albert	24,700	20½	10-12"	14"	Nov 1913
König Grosser Kurfürst Markgraf Kronprinz Wilhelm	25,390	21	10-12"	14"	Jul 1915
Baden Bayern	28,000	22	8-15"	14"	Mar 1917
Deutschland (Lützow) Admiral Graf Spee Admiral Scheer	12,100	26	6-11"	4"	Nov 1934
Bismarck Tirpitz	41,700	30	8-15"	15"	Mar 1941

APP I—DREADNOUGHT AND BATTLE CRUISER CONSTRUCTION 1905-1946 (cont'd)

Germany—Battle Cruisers

Name	Tonnage	Speed (kts.)	Guns	Belt Armor	Date Completed
Von der Tann	19,100	26	8-11"	10"	Apr 1910
Moltke Goeben	22,640	27	10-11"	11"	May 1913
Seydlitz	25,000	29	10-11"	11"	May 1913
Derfflinger Lützow Hindenburg	27,500	29	8-12"	12"	Jul 1914 Oct 1915 Oct 1917
Gneisenau Scharnhorst	31,300	32	9-11"	13"	Jan 1939

United States—Dreadnoughts

South Carolina Michigan	18,500	18½	8-12"	11"	Dec 1909
Delaware North Dakota	20,000	21	10-12"	11"	Apr 1910
Utah Florida	21,800	21	10-12"	11"	Sep 1911
Arkansas Wyoming	26,000	21	12-12"	11"	Sep 1912
New York Texas	27,000	21	10-14"	12"	Apr 1914
Oklahoma Nevada	27,500	21	12-14"	14"	May 1916
Pennsylvania Arizona	31,400	21	12-14"	14"	Oct 1916
New Mexico Idaho Mississippi	32,000	21	12-14"	14"	Mar 1919
California Tennessee	32,600	21	12-14"	14"	Sep 1921
Colorado Maryland West Virginia	32,600	21	8-16"	16"	Dec 1923
North Carolina Washington	35,000	28	9-16"	16"	Mar 1942
Alabama Massachusetts Indiana South Dakota	35,000	28	9-16"	18"	Nov 1942
Iowa New Jersey Missouri Wisconsin	45,000	33	9-16"	19"	Jun 1944

APP I—DREADNOUGHT AND BATTLE CRUISER CONSTRUCTION 1905-1946 (cont'd)

Name	Tonnage	Speed (kts.)	Guns	Belt Armor	Date Completed
United States—Battle Cruisers					
Alaska Guam	32,000	33	9-12"	9"	Sep 1944
Japan—Dreadnoughts					
Settsu Kawachi	21,400	20½	12-12"	12"	Jan 1912
Fuso Yamashiro	29,300	22½	12-14"	12"	Apr 1917
Ise Hivga	29,900	23½	12-14"	12"	Apr 1918
Nagato Mutsu	32,700	23	8-16"	13"	Oct 1921
Yamato Musashi Shinano	68,200	27	9-18"	18"	Aug 1942 Aug 1942 (converted to carrier)
Japan—Battle Cruisers					
Kongo Hiei Haruna Kirishima	27,500	28	8-14"	8"	Apr 1915
France-Dreadnoughts					
Courbet Jean Bart Paris France	23,400	20	12-12"	12"	Aug 1914
Bretagne Lorraine Provence	23,200	20½	10-13.4"	11"	Jul 1916
Richelieu Jean Bart	38,500	30	8-15"	16"	Jun 1940
France—Battle Cruisers					
Dunkerque Strasbourg	26,500	29½	8-13"	11"	Dec 1938

Just as seapower has influeneed history by its military and economic effects upon nation-states, so has history influenced the development of seapower by its psychological impact upon national leaders. In this article Mr. Gene Wolfe conducts the reader through the broad sweep of history in an effort to evaluate this feedback.

THE INFLUENCE OF HISTORY UPON SEAPOWER

An article prepared by

Mr. Gene Wolfe

My intent in writing this article was pure and simple. It was to record the nagging thought that history in some way must have influenced seapower just as surely as the other way around. Yet there was more than a slight awareness that at a glance the title of this piece could seem full of impertinences with regard to Admiral Mahan. These first words were, therefore, calculated to assure the reader that any trifling whatsoever with Alfred Thayer Mahan was not my aim at all.

The difficult thing to discover in approaching history's influence upon things naval and maritime is the coincidence of influence and confluence, where the effect is almost simultaneous with the happening. Examples of this are Japan's able mimicry of our carrier aviation and the American colonists' painful awareness of the British Navy off the capes in their ships of the line. On the other hand, some causes and effects are further apart, such as the influence of British and United States histories in full sweep upon Japan's total notion of modern seapower. In this meshing of time frames, it often is a question of defining the term "contemporary" and evaluating the relative weight of tradition and enrrent events. Nonetheless, it would appear that patterns of seapower persuasion do exist which are related to a meaningful observation by the one of another's national narrative.

The Mediterranean was the cradle of seapower as it was of Western civilization itself. The affluent society compiled by the Cretan-Greek alliance some 1,400 years B.C. was set upon by barbaric tribes of the north who came to be know as the Sea Peoples. As the very name suggests, these invaders have become indelibly identified with the sea. What is perhaps overlooked is that the Sea Peoples attacked the lush order of things to the south because their own histories had produced now obscure

unrests impelling such a movement. They moved by land as well as by sea; the sea was an instrument, not the begetter, of the deed.

Later, Homer noted the Phoenicians well: "men famed for their ships, greedy knaves, bringing countless trinkets in their black ship." To us the Phoenicians are also synonymous with the sea, perhaps to the exclusion of their other important characteristics and the thrust of their history which brought about their maritime greatness in the first place. History had developed in them a canny ability which became the generic force behind their better known role as the master middlemen of the Mediterranean. In the broadest view, the Phoenicians unwittingly made all subsequent Western seapower possible, not because of their seamanship or their exploration of the Middle Sea basin nor because of their extensive colonization, but because among the "trinkets" they brought the Greeks was an alphabet.

The Battle of Salamis, which taught never-to-be-forgotten lessons about the necessity of bases and fleet tactical doctrine, was, after all, an action inside the framework of larger historical forces which brought on the Greco-Persian War. The same can be said of Lepanto, where the Ottoman Turks met the forces of Christendom. In between, except when Agrippa resorted to naval tactics against the fleet of Antony, military use of the sea was largely a matter of using ships as troop transports.

There was more to the rise of Spain, Portugal, France, Holland, and England as oceanic powers than a capricious urge to go to sea. The cask of Europe was in ferment; nebulous regional feudalisms were coming under dominant feudal lords and kings; a rising merchant class was pressuring for a more centralized protection favorable to commerce and industry; and the religious unity of the Church was pitching and rolling under the winds of the Reformation. These and many other newly created forces of thought and activity, among them a perennial need in ruling courts for more income, combined to push the kingdoms of the Atlantic seaboard onto the sea.

What ultimately came to influence our own seapower most had its beginnings in those new energies emerging in medieval western Europe. It began when people living in the area of France started to think of themselves as Frenchmen and when the people on the "blessed isle" began to think of themselves as Englishmen. History had placed these two far too close together both in the sense of geography and in the sense of developing new-found nationhoods. The curtain thus was drawn for strife from Crecy to Waterloo, for England's mastery of the sea, and for France's rhythmic vacillations between land and seapower.

The fortunes of French seapower are a much better study in the influence of historical events than English because so much of England's history *is* seapower. French strength at sea waxed strong and brilliant, or it disappeared according to the degree of royal support it received. Frenchmen at sea were strong enough to beat the British at Yorktown, but in a few short years the French Revolution castrated the fine fleet by executing and exiling its superb officer corps.

If we can agree that the Mediterranean gave birth to seapower, then we must consider that English wars with the French gave it manhood. The Seven Years War beginning in 1756 was as much a global war as World War II, if we discount the sheer magnitude of the latter. In it England learned well many of the principles isolated so beautifully by Mahan with regard to national use of the sea. English power was everywhere ships could reach; that power included the close coordination of ships and troops and a mercantile base which provided the wherewithal even for practical aid to allies. And with that power

the home island was proteeted and her own sea bases were held, while additional bases were seized from the enemy.

In the later Napoleonic wars, seapower further matured, and again individual histories of individual states imposed significant effects. There is little doubt that if Britain's continental allies had cooperated earlier instead of being strictured within historical nationalistic feelings, it would not have taken 16 years to undo Napoleon. Trafalgar might never have been neeessary.

Early in the 19th eentury, history in the form of thc industrial revolution imposed upon seapower the most drastie, dramatie, and far-reaching change to be effected in more than 50 eenturies. In its beginning the change was literally an unelean operation. Dirty black eoal and dirty black smoke came aboard ship as attendants to a dirty black engine. To master and seaman alike, after gencrations of clean wood and sail, the inferno of boilers and the unnatural mess of an engine spewing oil, steam, and greasy water was an unpalatable, if not ridiculous, speetacle.

Yet there it was, and there it was to stay. And to make matters worse in the blue-water sailor's eye, the progenitors of the beast did not come from the mainstream of nautical development. They were mostly landlubber meehanics, engineers, and inventors: Fulton—an engineer and businessman; Fitch—an unstable "inventor" trying to rig a steamboat for Ohio River commerce; and Rumsey—another "inventor" who, with George Washington's blessing, tinkered with a self-propelled boat on the Potomac. The mechanical boats and ships worked, but naval officers were reluctant to adopt them for a very good reason—the nachinery was exposed and vulnerable. Then camc Ericsson's serew propeller which permitted the vitals to be placed below the waterline, and *Princeton*, the first self-propelled warship, was built for our Navy in 1842, a byproduet of the industrial revolution. The latest byproduets are *Nimitz* and NR-1.

With the launching of engine-driven ships a fact of nautical life, the advent of the modern battleship was only a matter of time, steel, and ordnanee. The result was *Dreadnought* and superdreadnoughts and the day of the modern battleship—epitome of seapower for nearly 50 years. But even as this was occurring, a speeialized history was shaping to influence the battleship as the essenee of seapower, if indeed not to preside over its demise. It was a different kind of history, the *personal history* of three men. One was an Irish sehooltcacher and inventor—John P. Holland. The other two were Ohio bicycle experts—Orville and Wilhur Wright.

The rise of the United States to its status as a modern seapower can be, with justifieation, aseribed to the labors of sueh men as Mahan, Theodore Roosevelt, Admiral Sims, and Henry Cabot Lodge. But there was also the larger context of history and its workings. We eame out of the Spanish-American War not only a global power in the sense of "power," we came out of it with vast new property holdings in the Caribbean and the wide Pacific. Many balked at affixing the term "empire" to this, but that did not materially denigrate the empirieal faet. And the fact immediately proceeded to set up its own imperatives. What was needed to administer, proteet, and develop that which history had given us was a big Navy, overseas bases, and a Panama Canal.

The grammar of America's emerging seapower was the English idiom. This was because of the feel of English history acquired by Roosevelt either on his own or by transfusion from the writing arm of Mahan. And although not the complete anglophile, Roosevelt's tendencies in this direction perhaps did cause him to see forcign

policy and naval policy as interrelated. He fashioned his naval weapon systems accordingly.

The forces of history and geography had much to do with the shaping of modern seapower in France and Germany. Not being insular, both countries had to think in terms of land strength, knowing only too well the histories of war on the Continent. Even so, Germany maintained a High Seas Fleet which was more than sufficient in size and quality to give England an acute concern. The seagoing strength of France, on the other hand, suffered from her fiscal history, and, like Italy, it featured fast cruisers fitted for coastal and Mediterranean work. In the military operations of the Triple Entente, France and England effected a trade-off, with France "using" the Grand Fleet and England "using" the great landpower of France.

Perhaps the prize history watcher of all time was Japan. By the middle of the 19th century, behind a protective wall of tariffs, U.S. industry had grown extensive enough to produce pressures for more foreign markets. Commodore Perry used the overt pressure of military seapower to force Japan to open her trade doors. But the pressures put upon Perry in the first place were, in reality, the forces of civilian industry at work through the instrumentality of President Fillmore. Perry's paddle frigates and sailing sloops of war and their talent for making a point were well observed by the Japanese. So well, in fact, that they were able to take on and defeat a sophisticated Western navy within a scant 50 years. A goodly part of that process included a careful study and analysis of British and American history. In a real sense, the Japanese amalgamated the best of both in fashioning their own variety of modern seapower. The same held for tactics and doctrine. They coupled American speed with Nelson flexibility in hitting the enemy via the shortest route, ship for ship. In quick succession they won a war with China and conducted for the world an almost unbelievable example in naval warfare at Tsushima. Further study resulted in the assimilation of the submarine and naval aviation. Japan reached her zenith on the morning of 7 December 1941 at the island of Oahu.

It is tempting to consider the Soviet Union as a more than competent history watcher. We know their rather amazing present-day manifestations of naval and maritime power have arrived with a certain suddenness, that is to say within the past 15 years or so. And from the size and quality of their naval, maritime, and oceanographic programs, we also know that Soviet presence on the world ocean is not a routine spin-off of normal total national development. It is the end product of major policy decisions and carefully planned and integrated effort with nothing less than first place on the sea in mind. But by whose thinking, whose sanctions, and under what influences? It would seem reasonable to suspect that whatever the overview included, it surely must have included a genuine feel for history's use of seapower and perhaps even seapower's use of history.

The latest major persuasion of American seapower has been the influence of the political and technological climate of the past 20 years. In that period, to heretofore unknown and horrendous world political excitation, technology added fantastically dangerous real-time destruction quotients to create a world that would have been pure science fiction to Theodore Roosevelt. A playback to Roosevelt perhaps has meaning since in the climate of the fifties and sixties our Navy again became strongly identified with our foreign policy, became the invaluable on-the-spot instrument of U.S. intent abroad. And once again the Navy's hardware was shaped accordingly. Enough Navy was maintained to establish a global deployment and, to some extent, a global surveil-

lance with strength where trouble was most apt to occur. Aside from the purely military necessity of ASW, our carrier aviation, amphibious warfare, and underway replenishment capabilities were kept as sharp as we could make them. And the Navy nibbled at the strategic weapons delivery mission because it was in position to do so, having had the foresight to put together a tool for the job—the *Polaris* submarine.

In the sense of what is most meaningful for American seapower, it is predicted that the strategic value of all that water out there will become more and more apparent as contemporary history goes on. The currently evolving political climate will force recognition of the inevitable.

A final speculation also has its tentacles in the future. It is what will happen in the sea when the longstanding affinity between the private entrepreneur and dollars brings about an oceanic revolution, perhaps one to outshade the industrial revolution in magnitude and effect. There are those who believe ocean space will become as valuable as land space and for the same reasons: the wealth of all kinds that can be extracted and for the life it will support. It is not so much that the sea has become the dreamer's antidote for landborne ills, but rather that the sea will pay hard dividends on hard investments—a kind of deal which has had some attraction for all manner of men since the time of the Phoenicians. And, as usual, modern technology is racing ahead of the more liesurely paced minions of international law and order, to say nothing of the lay understanding of what is even now happening in the briny deep. The time is almost now for the making of decisions with the wisdom of Solomon and the vision of Mahan to prevent chaos in the marketplace at sea.

For in any industrialization of the world ocean, indeed in a limited industrialization, accommodations will have to be made. Not the least of these accommodations will be with seapower as we now know it. At the very least, the exploitation of marine resources will have to be seen as part of the total national seapower, just as commerical shipping was accepted as a component, and will have to be digested as such.

What the ingestion and digestion will do to seapower remains to be seen, but an effect there will be. It may well change the face, perhaps even the body, as did steam and steel in what now seems like so many years ago.

BIOGRAPHIC SUMMARY

Mr. Gene Wolfe holds degrees in English literature from George Washington University, and is staff writer in the Office of the Chief of Naval Operations (OP-09D, the Navy's "Seapower" office). He served aboard destroyers through eight Pacific campaigns during World War II and for 10 years was speech and presentations writer in the former Bureau of Aeronautics, leaving the Bureau as Public Affairs Officer. In 1960 he became press officer for the Export-Import Bank of the United States, returning to the Navy in 1964 to accept his present position. His current work includes the scripting of speeches, presentations, and documentary motion pictures.

Ψ

The development of the tracked amphibian in the years immediately preceding World War II made the island-hopping campaigns of the Pacific War feasible. However, the development of guided missiles, tactical nuclear weapons, and mechanized divisions has made the traditional tactics of amphibious operations increasingly vulnerable. With the introduction of helicopter assault forces and more advanced amphibians, new tactics are needed to counter the possible effects of modern weaponry.

THE ROLE OF THE TRACKED AMPHIBIAN IN MODERN AMPHIBIOUS WARFARE

A research paper prepared by

Major Robert C. Caldwell, U.S. Marine Corps

School of Naval Command and Staff

INTRODUCTION

Born in the Florida swamps, the illegitimate offspring of a small boat and a tank, orphaned as a logistical beast of burden during the early campaigns of the Pacific War, given its birthright across the reefs at Tarawa, the tracked amphibian became, in the truest sense, the link that projects seapower on shore. Today, the vehicle remains an important part of the U.S. Marine Corps inventory for amphibious operations.

It can be said, with little fear of contradiction, that for the past 20 or more years the doctrine for employment of the vehicle for the most part has remained unchanged. Boat lanes are established, waves are formed, and guide boats frantically attempt to herd their sluggish and unwieldy amphibians toward the beach. The carefully designed assault upon a defended shoreline, with the establishment of a beachhead, is a time-consuming process. It is the first of two moves; the second, after sufficient combat power has been built up in the beachhead, is the breakout into the enemy's hinterland.

The tracked amphibian has been used in this type of operation in order to overcome natural underwater obstacles such as coral reefs and to place troops directly on a defended beach ready to fight.

The amphibious battlefields of the future may not be ringed with coral reefs and defended in depth by troops and fortifications. They may, instead, be ringed with cruise missiles and defended in depth by the mobility of armored units. What then will be the role of the amphibian, and how will it be employed?

To answer these questions this paper will briefly examine the rationale behind the development of the vehicle, provide the background that established the doctrine for its present employment, and propose some other approaches to the vehicle's utilization in the future.

There will be no attempt in this paper to compare the relative effectiveness of the amphibian to other means of troop and cargo delivery, because, like many other items in a military weapons system, it is but a part of the overall scheme, and by itself it cannot accomplish a mission.

By 1972 the Marine Corps will acquire a new type of amphibian of advanced design. This vehicle already has proven itself in tests, so much so that it promises to be the first truly amphibious armored personnel carrier. It will possess mobile capabilities far beyond the present doctrinal state of the art.

It is now time to examine the changing world of the tracked amphibian in order that this unique machine can be given an updated breath of doctrinal life. It will be the purpose of this paper to suggest some new doctrine to complement the new vehicle.

I—THE DEVELOPMENT OF AN AMPHIBIAN

> The development of the amphibian tractor or LVT (Landing Vehicle Tracked), which began in the middle 1930's, . . . was one of the most important modern technical contributions to ship to shore operations. Without these landing vehicles, our amphibious offensive in the Pacific would have been impossible.[1]

Early Beginnings. Even before the First World War and the British failure at Gallipoli, amphibious warfare was a dead issue. It appeared that modern military technology had overtaken the art of placing soldiers on land from the sea. The disaster at the Dardanelles merely confirmed this thesis.[2]

When World War I ended, the U.S. Marine Corps, having had a taste of its first sustained ground combat, was swiftly reduced in size to conform to its former mission of being the Navy's soldiers of the sea. Despite this reduction of forces, there were those still in the Marine Corps who were not satisfied with the traditional role of guards and policemen. In particular, the Maj. Gen. Commandant, John A. Lejeune and one of his young staff officers, Lt. Col. Earl H. Ellis, saw in amphibious warfare an opportunity to expand on the Corps mission. Under Lejeune's leadership the mission of the Marine Corps was oriented toward the seizure of advanced naval bases. Ellis' fertile mind provided the scenario and the plan to support it.

Ellis' scenario was set in the Japanese mandated islands of the Central Pacific, where his plan called for a series of limited amphibious operations designed to seize these islands successively. This plan was titled *Operation Plan 712 H, Advance Base Operations in Micronesia.* OpPlan 712 H was approved by Commandant Lejeune on 23 July 1921 and stands today as an accurate forecast of the step-by-step island campaign in the Pacific 21 years later.[3]

Though Ellis lost his life in 1923, while "visiting" the Japanese mandates on an official leave of absence, the Marine Corps and the Navy continued throughout the pre-World War II years to examine, plan, and practice the complex and demanding business of seizing advance naval bases by assault from the sea.[4]

During these years between conflicts, the primary doctrinal thrust of the plans and practices was toward fighting a future war against Japan in the Pacific. As it developed, the doctrine oriented itself in the direction of a frontal assault against a heavily defended island beach which was surrounded by a coral reef.

In order to develop the necessary beach assault technique under the conditions anticipated, both the Navy and the Marine Corps conducted a series of Fleet Landing Exercises in the Caribbean and off the coast of California. These exercises eventually established

an initial doctrine in the form of the Corps *Tentative Manual for Landing Operations* and the Navy's *Fleet Training Publication 167.*[5]

Without acceptable landing craft to implement it, however, this doctrine was unrealistic. Commanders noted a whole range of ills associated with landing in standard Navy boats. These ills were essentially grouped into three broad categories: (1) the lack of speed and maneuverability: (2) the lack of stable handling characteristics in the surf; and (3) the lack of a rapid means to debark troops at the water's edge.[6]

As a result of these early amphibious exercises, the Navy began to work in earnest to solve the landing craft problem. The Marine Corps, in the meantime, attempted to experiment with a tracked amphibian.

In 1924 an amphibian tank appeared on the scene. Its designer, J. Walter Christie, claimed that his machine could operate in the water at speeds of up to 7 knots. On land the vehicle could travel across country at up to 15 miles an hour. The vehicle did perform well on land, but in the water it was quite another story. Only on a calm day in the Potomac River did it prove to be seaworthy. In any rougher water the amphibian was subject to swamping.[7] With lack of money as a major cause as well as the absence of acceptable waterborne performance by the Christie vehicle, the amphibian tank program was abandoned by the Marine Corps. Nearly 15 years would pass before interest, know-how, and funds would again become available for another such undertaking.

Donald Roebling's Alligator. At the conclusion of the fleet exercises of February 1937, the frustrated participants recommended that an amphibian tank be developed "and fast."[8] It undoubtedly would have surprised the authors of this recommendation to know that a tracked amphibian did exist and was actually operating within the United States. At this time, tests were being conducted in the Florida swamps, and the scene was an enterprising reporter from the newly established *Life* magazine who was making notes and taking pictnres. A few months later, in October of 1937, an inconspicuous two-page article appeared in *Life.* It was titled "Roebling's Alligator for Florida Swamp Rescues." The text explains:

> Shocked hy the great Florida hurricane of Septemher 1935, John A. Roebling of New Jersey's bridge building family told his 28 year old son, Donald, that some sort of amphihian vehicle might have saved many lives hy transporting victims through the swamps, over drowned roads, aeross dehris filled bayous. Donald agreed, went to work, after many expensive months produeed the "Alligator" shown in operation on his Florida estate.[9]

The photographs accompanying the article show a silvery tracked vehicle resembling to some extent a World War I tank with an open top. The captions under these pictures inform the reader of the truly remarkable features of the vehicle. It was constructed of duralumin and weighed only 8,700 pounds. Powered by an 87 horsepower, Ford V-8 engine, it had a speed of 18 miles per hour on land and 8.5 miles per hour in the water. Propulsion in either environment was by lugs attached to an endless track. The cost was only $10,000.[10]

Apparently marines didn't subscribe to *Life* in 1937, but Rear Adm. Edward C. Kalbfus did. In his capacity as the Commander, Battleships, Battle Force, U.S. Fleet, he mentioned the article to the Commanding General of the Fleet Marine Force during a joint conference on a fleet exercise. The Commander of the Fleet Marine Force, Maj. Gen. Lewis

McC. Little, expressed more than a mild interest in the Roebling invention. He dispatched a clipping of the article to the Commandant of the Marine Corps.[11]

The Landing Vehicle Tracked (LVT) Is Born. To the Commandant and particularly to Brig. Gen. Frederick L. Brodman, the President of the Marine Corps Equipment Board, the prospect of acquiring a machine which might solve the landing craft problem was euphoric. With an amphibian vehicle capable of traversing coral reefs, rocky beaches, and swampy lowlands, the selection of landing sites would be infinitely more varied. No longer could an enemy concentrate his defenses only around those areas accessible to small boats and landing craft. Now, facing an amphibian tractor, the potential enemy would, of necessity, have to spread his defenses thin over a wider area of terrain. No longer were the natural inshore obstacles of coral an adequate or reliable adjunct to a viable beach defense system.[12]

Contemplating the capabilities of the new machine and bringing it into being were two very different things. It was 1937 and the budget of the Marine Corps was small. Besides, the vehicle was an unknown military quantity. In other words, it was a long way from the pages of *Life* to the beaches of Betio.

Still General Brodman thought enough of the concept to send Maj. John Kaluf to Florida to look the Alligator over and see if it would live up to its advance billing.[13] Major Kaluf was impressed. He was so impressed, in fact, that the result was a recommendation to the Commandant to procure a prototype. This recommendation stated in part: "... subject boat has possibilities for use in landing troops and supplies at points not accessible to other types of small boats."[14]

There followed nearly 2 years of struggle for the funds to build the prototype. The monies had to come from the Chief of Naval Operations, and he had none for that purpose.[15] The Navy was directing its limited resources for amphibious operations to the procurement of other equally important equipment, such as new landing craft and tank lighters.[16] Besides, Navy transports had been designed to lift a maximum of 5 tons over the side, and it was clear that the military version of the Alligator would go beyond that weight.[17]

With a war going on in Europe, Roebling, at the urging of the Marine Corps, designed the military version of his machine. He even sketched out a turreted (armored) model.[18] Funds soon became available to the Marine Corps for the construction of the prototypes. October of 1940 saw the first military amphibian delivered to the Marine Corps at a cost of $16,000. It was officially designated "Landing Vehicle Tracked (1)." Initial tests were successful, and the Bureau of Ships issued a letter of intent for the production of 200 steel-hulled, identical copies.[19]

By May of 1941 a tactical unit was established at Dunedin, Fla. to operate the new LVT. This amphibian tractor unit was, however, primarily concerned with the training of crews in the operations and maintenance of the machine. Although small numbers of LVT's participated in a few landing exercises in the last half of 1941, there really wasn't time before the attack on Pearl Harbor in December to develop any kind of doctrine for their tactical employment.[20] As they were part boat the planners of the day probably felt that these amphibians could be utilized in the same fashion as the landing craft.

So, as the United States entered World War II, the Marine Corps did have its long-sought-after vehicle that was capable of carrying troops and equipment directly from ships onto a hostile shore. Long before Colonel Ellis'

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scenario would be played to its final conclusion, the tracked amphibian would have to earn its place in amphibious doctrine by the difficult trial-and-error method of combat. There was to be a rendezvous at Betio.

The experience at utilization of the AMTrac, or LVT, was acquired during the island assaults of World War II. As this experience was evaluated, on-the-spot doctrine was established. To this day, the lessons learned in the Pacific

LVT-1 (1941)

II—THE DEVELOPMENT OF A DOCTRINE

> The beach conditions forced on the Americans the use of an amphibian vehicle, and the vehicle influenced them to use a parade-ground system of approach. . . . it must be stressed that the LVT was used as a landing craft only because a landing craft could not negotiate a coral foreshore.[1]

In July of 1942 a group of New Zealanders was amazed as they watched a number of small craft emerge from the ocean and climb up on to the rocky shores near Wellington.[2] This landing on a friendly island beach was administrative in nature and required little doctrinal preparation. The amphibian tractor had arrived in the war zone and was about to earn its niche in the island war of the Pacific.

are the cornerstone of our LVT employment. Examine, if you will, the current publications of both the Navy and the Marine Corps, specifically NWP 22(B), *Doctrine for Amphibious Operations* and FMFM 9-2, *Amphibian Vehicles*, and compare the doctrine contained in them with the techniques used during the Pacific campaigns. It is readily apparent that these modern-day documents set forth the same tried and true procedures for the utilization of LVT's in combat that developed during the Second World War.

The validity of the present doctrine as it applies to the assault of fortified island surrounded by underwater obstacles is not in question. However, when it is applied to current scenarios with diverse objectives and where newer and more capable tracked amphibians will be employed, present doctrine is open to question. But in order to understand the present employment

doctrine, one must examine its origin and development.

Solomons and a Logistical Support Role. As a new implement, the LVT was thrust upon the operators and tacticians of the 1st Marine Division only a month before their initial amphibious operation of the war. It came with no handbook as to its uses. Some members of the division staff thought the LVT would be a handy gimmick for carrying supplies from ships offshore to inland dumps, and others, remembering its original capability for negotiating swampy terrain, saw it as an excellent mode to resupply frontline troops in the damp terrain of the jungle. With these roles in mind, the LVT assets of the AMTrac units were generally divided among the infantry organizations.[3]

From the very outset of the entire Marine effort in the Solomons, the LVT proved that its versatility was only limited by the user's imagination. Besides carrying all types of cargo to the point of need, it became a prime mover for artillery.[4] It also broke jungle trails, rescued pilots, became pontoons for bridges, and evacuated the wounded directly from the frontlines. On Bougainville, where a sea of mud nearly brought the operation to a premature halt, the LVT was the only vehicle able to keep the forward areas supplied. In fact, with numbers of LVT's available varying from a high of 64 to a low of 29, the 3d AMTrac Battalion transported 22,992 tons of equipment and supplies on that island alone.[5]

When the Solomons campaign was finished, the LVT was firmly established as an important adjunct to the logistical support of an amphibious landing. The Marine Corps had begun to write a small portion of the doctrine.

It is important to remember that throughout the Solomons campaign the LVT was not used to any degree as an assault troop carrier. Actually, the Commanding General of the 1st Marine Division recommended that the vehicle not be used in such a role, because landing troops would degrade its logistical usefulness.[6]

Tarawa and the Assault Role. Necessity is indeed the mother of invention, and the necessity to find a means to circumvent the coral reef surrounding the island of Betio at the Tarawa Atoll proved not only a testing ground for amphibious doctrine, but particularly for the techniques of employing LVT's in the role for which they had been designed—assault over the beach.

Reams of copy have been written on the subject of the Marine assault at Tarawa. They adequately point out the many lessons learned there and would, in part, include the need for better air and naval gunfire preparation of the objective area and a thorough hydrographic reconnaissance prior to "D-day." However, the most important lesson taught to the tacticians by Betio was that when a landing force assaults an island protected by an offshore reef, the use of LVT's is required.[7]

Beginning with the early planning stages of the Tarawa operation, the Amphibious Task Force Commander, Rear Adm. Richmond Kelly Turner, opposed the use of the AMTracs as assault vehicles for some very valid reasons. They were lightly armored, slow, difficult to control, and unseaworthy.[8] His evaluation was essentially correct, but they *could* cross reefs. With an uncertain high tide with which to float landing craft over the reef, Maj. Gen. Holland M. Smith insisted that they be employed in the first three assault waves.[9]

The assault proved essentially that both the admiral and the general were correct. The first three waves were equipped with 100 LVT's, 50 of which were tired veterans of the Solomons, while the others were the newer, faster, and better protected models of amphibian, the LVT-2. Nevertheless, they

had all the problems that Admiral Turner predicted. The older models could not keep pace with the newer ones, and the waves had to be slowed down to compensate. As a result, the waves were late crossing the line of departure.[10] Without any information as to the delay, a fault of communications, the naval gunfire was lifted on the original schedule. This left the Japanese defenders ample time to come out from their fortifications and prepare a lively welcome for the marines.[11]

It is significant to point out, however, that the LVT's, under heavy fire, advanced across the reef and placed the initial three assault waves directly on the beach with relatively light losses.[12] The heaviest casualties were sustained by the marines embarked in the landing craft. Those boats could not cross the reef, and, as a result, the embarked troops were forced to dismount and wade ashore under intense fire. Because the combat power that must always be built up rapidly in an amphibious operation did not materialize, the situation on shore remained in doubt for over 24 hours.[13]

History tells us that the desperate battle for Betio was won by the determined courage of those marines who got ashore and the LVT crews who not only brought them there, but kept them there by shuttling reinforcements and supplies over the reef. It was obvious to all concerned that there were barely enough LVT's available to turn the tide of battle.[14]

At the conclusion of the battle, some 3,000 dead and wounded marines were counted. Of that total a full 10 percent were from the crews of the amphibians. Vehicle losses were set at 71 out of the 125 eventually committed.[15] It was a very high price to pay for a new concept and the doctrine it developed.

The doctrine for LVT operations, established at Tarawa and executed during subsequent operations, consists of five primary tenets. First, when conducting an amphibious assault against a beach with obstructive offshore obstacles, the entire assault force must be boated in amphibian tractors.[16] Second, the troop-carrying waves must be preceded by armored amphibians, armored in the sense that they are equipped with a turret-mounted, large-caliber weapon to suppress beach defense fires.[17] The Marine Corps traditionally refers to this type of LVT as an armored amphibian. Third, a transfer line should be established seaward of the reefs or obstacles, in order that troops and equipment can be transferred from landing craft to LVT's.[18] Fourth, sufficient LVT's must be held in reserve to assist in the ship-to-shore movement of priority equipment and supplies. Fifth, a careful rehearsal of the landing must be executed to familiarize the LVT crews as to their exact missions.[19]

A full day before the Marine assault at Betio, the 165th Regimental Combat Team of the U.S. Army's 27th Division executed a landing on the island of Butaritari in the Makin Atoll. This landing, along with the one at Betio, was a part of the overall campaign to seize control of the Gilbert Islands chain. At Makin the Army contributed two very obvious principles to the growing LVT employment doctrine.

The first of these was the not so surprising concept of landing LVT's where the enemy had installed little or no beach defenses. At the same time, the 27th Division opted to configure its wave formation to facilitate rapid movement and better control. The assault waves used the inverted "V" formation as opposed to the standard on-line wave the marines used at Tarawa.[20] The results were a trouble-free ship-to-shore movement and a rapid buildup of combat power. Secondly, the Army employed its LVT's to land troops on the seaward flanks of the Japanese defenses by executing small-scale shore-to-shore amphibious landings.[21] This type of

employment exploits the mobility options available to the force after the assault landing is completed and the beachhead has been consolidated.

The results of the amphibious operations at Tarawa and, to some extent, at Makin convinced the Marine Corps that the LVT could and should be an important part of the amphibious assault force for the remainder of the Pacific War. Primarily, a refinement of the lessons and techniques learned in the Gilberts was to follow.

After Tarawa. The remaining island assaults that took place in the Pacific during 1944 and the first half of 1945 featured the use of large numbers of LVT's in the assault waves. Though no significant changes were made to the doctrine established as a result of Tarawa and Makin, numerous techniques of application had to be refined and improved.[22]

The Marshall Islands landings illustrated the validity of employing armored amphibians in front of the assault waves. These LVT(A)'s, with their turret-mounted guns, were able to take up where the naval gunfire had left off.

In addition, the operations in the Marshalls demonstrated that when large numbers of LVT's are utilized, a distinct command and control problem has to be dealt with. It was recognized that to solve this problem, better cooperation and coordination between the crews of the Navy's amphibious ships and the LVT personnel had to be effected.[23]

When the time came to capture the strategic islands of the Marianas, the full focus of the Marine Corps experience at employing LVT's could be applied. Newer, faster, and more protected vehicles were directed at the beaches in the on-line wave formation. As in the past, the traditional coral reef protected the selected landing beaches. This time, however, at least at Saipan, the LVT's assigned to carry the assault elements of the 4th Marine Division were directed to move inland some 1,400 yards before debarking their troops.[24] This new tactic was intended to allow for a more rapid advance inland and would lessen the congestion on the beach which usually slowed the beachhead development.

This first attempt at an amphibious armored column failed in its intended purpose. Because of the heavy concentration of gunfire directed upon them, only an ineffective few of the LVT's were able to move inland. As a result, a new concept in employment of LVT's was prematurely discarded.[25] The principle of breaking through a beach defense by shock action and then exploiting that breakthrough by attacking to the rear and to the flanks of the position, can, however, have a definite place in an amphibious doctrine.

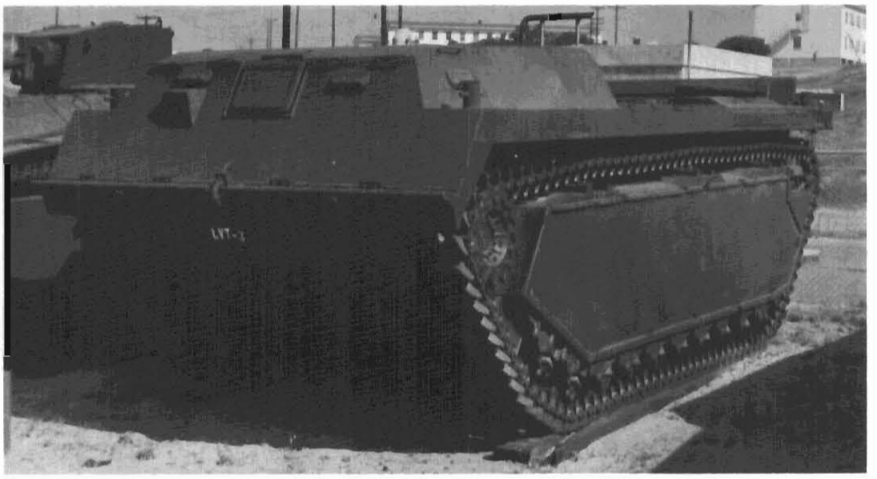
At Tinian the use of LVT's in conjunction with other landing craft allowed the landing force to select a narrow and restrictive beach that was undefended. The ability of the amphibian to move directly inland off the beach made this normally undesirable landing site usable for the assault. The Japanese, on the other hand, had prepared in-depth defenses of the logical landing beach near Tinian Town.[26] The outcome was never in doubt.

The success of the undertaking at Tinian can be measured in terms of low casualties and the swift capture of the island. The flexibility and the mobility offered by the amphibian allowed the beach defense system to be outflanked, and troops and supplies could be rapidly moved inland off the beaches. It is an important lesson not to be forgotten.

The remainder of the amphibious war in the Pacific would see the principles established for LVT assault executed on an even more massive scale. Although they were epic struggles, no real changes or additions to the now confirmed doctrine would be made. The doctrine did work.

At Iwo Jima, for example, nearly

500 LVT's placed 6,500 assault troops ashore in the first 30 minutes of the operation.[27] Later, at Okinawa, the mobility provided by the LVT's exploited the undefended beach conditions found there and allowed the Army and Marine assault forces to build up their combat power ashore. Hard fighting was ahead for the landing force, but the actual amphibious landing was considered by many as "the war's greatest anticlimax."[28] Although the numbers of LVT's committed were greater in these final operations, the doctrine, as developed at Betio, refined in the Marshalls, and exploited in the Marianas, was used. The picture of the wave after wave of troop-laden amphibians churning toward an island beach is a familiar one to newsreel watchers and illustrates this doctrine clearly. Take that same picture, reduce the numbers of LVT's, add some helicopters in the background, and today's doctrine would appear.



LVT-3 (1943)

Post-World War II Developments. As with all American wars, when the end comes, the cutback starts. This was certainly true after the Second World War, and it affected the amphibious forces just as it did many other aspects of the U.S. military.

As the war had ended in a mushroom cloud, many military thinkers in high places felt that the nuclear age spelled the end of the massive concentrated assaults on enemy beaches. As Marine Col. J.D. Hittle in his article "20th Century Amphibious War" states: "Hardly had World War II victory been achieved, than a large element of military thought again manifested its gratuitous willingness to declare amphibious warfare and naval power obsolescent and unresponsive to the requirements of modern war."[29]

The effects of the normal postwar reduction of forces and the feeling that amphibious warfare was over the hill as a military instrument were felt in the world of the LVT. By 1950, of the more than 18,000 AMTracs built during the war, only 1,200 remained in the active forces.[30] It would take another war, this time in Korea, to bring back the amphibious operations and with it the LVT.

The amphibious assault on the port of Inchon, Korea, has been described by many as the perfect amphibious operation. Besides being a stroke of strategic genius, the operation represents the high water mark in the application of the LVT doctrine as conceived in the Paci-

fic. Carrying part of the assault waves of the 1st Marine Division ashore, the AMTracs moved through tidal mud flats, crawled over obstacles, and placed their cargo of marines in position to seize the objective.

Summing up the overall effect of this operation on the future of the amphibious operation, Comdr. Malcolm W. Cagle in his article "The Analysis of a Gamble" concludes: "While Inchon's basic pattern was unchanged, and while there were no new techniques or doctrines developed, the assault confirmed the soundness of our present doctrines and demonstrated afresh the power of decision which the amphibious assault possesses."[31]

During the early 1950's, while the Korean war was still in progress, the Marine Corps designed and tested a new LVT with which to replace the World War II types that were still in the inventory. This model, the LVTP-5, was adopted for service use and was introduced into the Fleet Marine Forces in 1956. A comparison between the LVTP-5 and the AMTracs built during the Second World War is shown in table I. The vehicle represented a significant improvement over the previous models.[32] It was more capable of operating on land, provided more protection for the embarked troops against shell fragments and small arms fire, and could carry much more cargo than its predecessors. The LVTP-5, along with four other types of LVT's built on the same hull,[33] is still the standard amphibian of today's landing force.

While the only change to the LVT portion of the amphibious operation during the postwar years was in equipment, the operation itself was given a new dimension of employment with the advent of the helicopter and the vertical assault. Doctrine for the use of this new tool was established based on experience gained in Korea and from exhaustive tests conducted during many operational exercises. When used in conjunction with the surface assault, it provides for some flexible, rapid, and powerful combinations with a number of options.[34]

Since mid-1965 amphibious landings have been made up and down the coast of South Vietnam. These landings are conducted using both the vertical and surface assault techniques in combination. The helicopters land their troops behind the beach, while troops embarked in LVT's move ashore in wave formation to establish a beachhead. Once the beachhead is established and the heavy combat support units of tanks and artillery are ashore, the force moves out of the beach area and joins the helicopter-landed elements.[35] Although this short description is oversimplified, it represents the state of the doctrinal art today. Modern in one sense, archaic in another, this doctrine has been successful in a counterinsurgency war. It is hard to argue with success, but, for the future, it may be fatal to stand on today's LVT doctrine in its present form.

LVT Doctrine Today. The specific principles for the employment of the tracked amphibian can be found in the previously mentioned FMFM 9-2. There will be no attempt here to list and dissect all of them. Many of the principles pertain to individual and small unit tactical operations of the AMTrac. Others deal with safety precautions and organizational matters. These principles are valid under any doctrine. What needs to be considered, in the light of modern military developments, is that portion of the doctrine which deals primarily with the ship-to-shore movement.

Figure 1 graphically shows the LVT in the ship-to-shore evolution. All the familiar elements are present, the line of departure (LOD), which is an imaginary line offshore parallel to the landing beach from which the waves are dispatched to shore; the primary and

TABLE I—LVT's: 1941-1969[a]

Model	Year	Weight (lbs)	Speed (mph) Water/Land	Capacities Troops/Cargo
LVT-1	1941	17,000	5/10	18/4,000 lbs
LVT-2	1942	24,400	6/16	24/8,000 lbs
LVT-4[b]	1943	25,650	6/16	35/8,000 lbs
LVT-3	1943	32,000	6/20	35/7,000 lbs
LVT-3(C)	1949	39,190	5/20	35/6,100 lbs
LVTP-5	1956	69,780	6.8/30	Water: 34/12,000 lbs Land: 34/18,000 lbs

[a]Maynard M. Nohrden, "The Amphibian Tractor, Jack of All Missions," *United States Naval Institute Proceedings,* January 1946, p. 17; U.S. Marine Corps, *Amphibian Vehicles,* FMFM 9-2 (Washington: U.S. Govt. Print. Off., 1965), p. 182-183.

[b]LVT-4 was in operational use before the LVT-3.

secondary control ships which *anchor* astride the LOD to control the movement and timing of all the waves moving ashore; the many wave guide boats which round up the amphibians, get them formed, and control their speed and direction in the move to the beach; and the LVT's which form into the traditional on-line waves.[36]

The gathering together of the various elements described, in order to place marines on the beach, is a time-consuming process. Normally, the naval units shown in figure 1 are in position anywhere from 1 to 2 hours prior to the assault. Allowing for an LOD 4,000 yards from the beach, it would take the LVT's, at the very minimum, 20 minutes to cover that distance. Basically, this means that the force has lost an element of surprise and at the same time offered an enemy a lucrative target.

Once ashore the LVT's drop off their infantry who secure the beachhead. The LVT's move to the flanks of the beach to get out of the way of the following waves and wait for other missions. A potentially mobile force becomes temporarily immobile. Usually, once the tank units come ashore and the beach area has been secured, a column is formed containing tanks and infantry mounted in LVT's to link up with the forces landed inland by helicopter.[37] In this manner the surface-landed elements are connected to the air-landed elements, and an old doctrine is attached to a new one.

The old doctrine has been successful in the past, mainly because it was tailored to fit the particular type of terrain and enemy that it actually encountered. Today, joined with the helicopter doctrine, it is succeeding against an opponent who hasn't the modern weapons to effectively oppose it. What about the other potential enemies in this world? Could they pose a real threat to the amphibious forces under its present concept?

III—BACKGROUND FOR A NEW DOCTRINE

> The national military strategy will . . . be essentially peripheral, with U.S. strength deployed forward to the littorals of the Communist world. Sea power will be the primary means for the movement and support of balanced U.S. forces overseas. The line of Free World defense will be on the coastal areas around the perimeter of the aggressor nations. In this

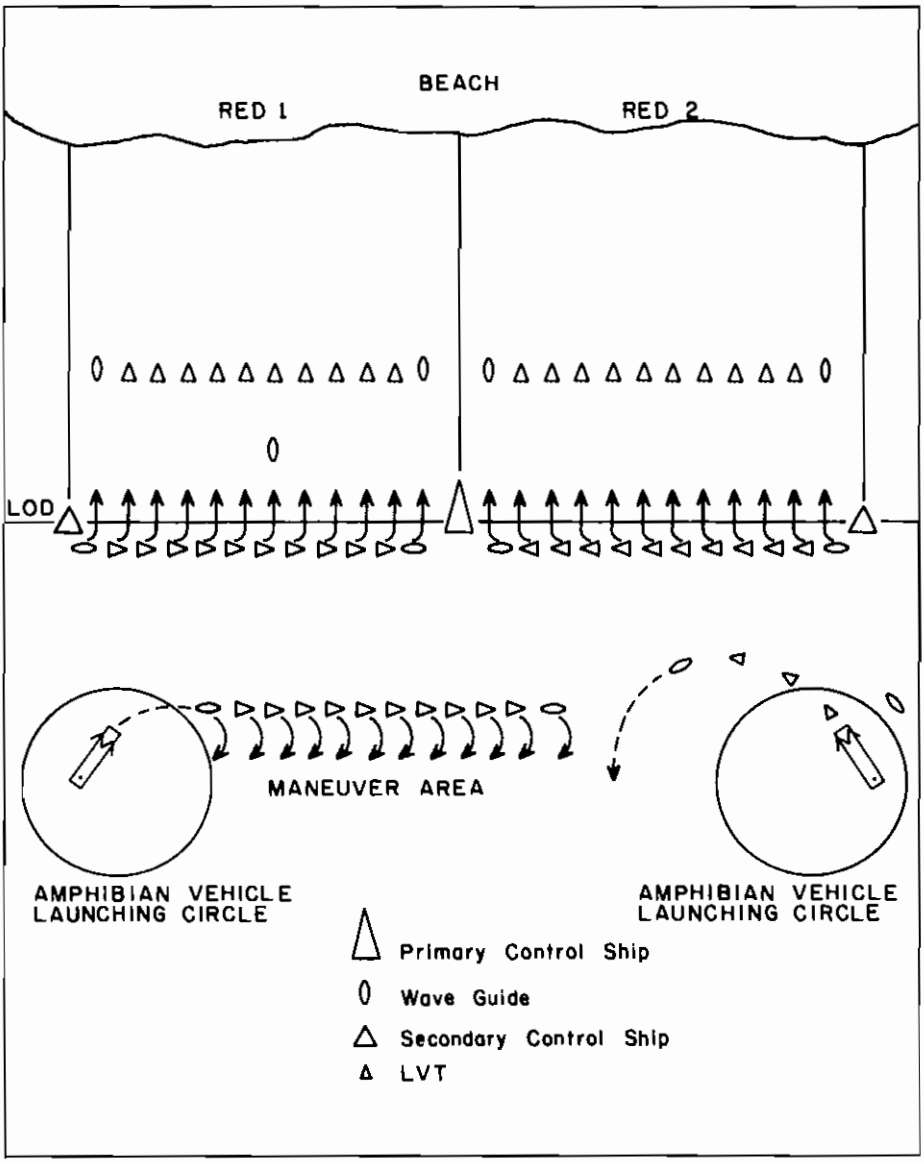


Fig. 1.—Ship-To-Shore Movement of LVT's, Today.

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peripheral, littoral strategy, amphibious capability is expected to be a crucial element.[1]

It would be presumptuous to think that the LVT will have any effect on national maritime strategy, but, conversely, this strategy will affect the type of modern doctrine needed to properly employ the LVT in support of it.

The overall Marine Corps role in the maritime strategy of the United States is to use its balanced air-ground landing forces to rapidly project its combat power ashore in any area of the world and against any type of adversary.[2] The capability to perform this role in all levels of conflict is a strategic weapon against which, when used, no enemy has the ability to retaliate in kind.[3] Since World War II this weapon has been used with great effect in all levels of conflict short of nuclear war. Without a doubt, it will be used again.

Modern Technology and Old Doctrine. To employ our amphibious weapon in the future with the same probability of success we have enjoyed in the past will be more difficult. The plain fact of the matter is that time, events, and military technology have overtaken the old LVT doctrine. It is folly to believe that the old methods will continue to succeed against a potential enemy who may possess modern weapons, mechanized mobility, and a diverse geographical rimland. These factors, properly used against an amphibious force, could counter the forces' ability to rapidly build up its combat power ashore. This premise would be particularly true if the amphibious force follows the present time-consuming procedures of immobilizing its shipping close ashore while launching amphibian vehicles and landing craft. It is during this period that the very heart and lifeline of the operation lie vulnerable to destruction by a formidable "mixed bag" of enemy weapons.

Once ashore the landing force could likewise be subjected to destruction by an enemy aggressively employing his armored units against the beachhead.

Threats to the Ship-to-Shore Movement. A lengthy recounting of all the weapons and tactics that could be brought to bear on the amphibious forces is not intended here. What is intended, however, is to examine an enemy's general capabilities to prevent the landing force from executing the ship-to-shore movement.

The Soviet Union and her allies have the capability to thwart an assault from the sea. The vulnerability of immobile shipping to the Soviets' sophisticated antiship missiles launched from the sea, the shore, and from the air is well known. So also can submarines and shore batteries pose a significant threat to the amphibious force.[4] It is conceivable that the operation could be brought to a premature end before the LVT's could be launched.

The Soviet doctrine for the organization of a beach defense against an amphibious assault should be looked at. It is clear that the Soviets have done more than a little doctrinal development to counter the threat of a landing against their exposed coastline.

A significant insight into their thinking was revealed in an article describing Soviet seacoast defense published in *Voennyi Vestnik* (Military Courier), an organ of the National Defense Ministry.[5] In general, the beach defense system was characterized as an area defense of accessible landing sites. These sites would be defended by motorized or mechanized units with each battalion of these units responsible for a position extending 2,600 to 3,000 meters in length and 2,000 meters in depth. A less accessible landing beach would extend the battalion's front out to 5,000 meters or more. These defenses have all the heavy weapons associated with Soviet motorized and mechanized units—tanks,

artillery, and antitank guns. Mines of all types are employed both on and off shore.[6]

The most interesting and meaningful indication of the Soviet beach defense concepts comes from the following statements:

> Fire (support) systems should interfere with the enemy at the farthest possible approaches, ... Enemy amphibious landings may coincide with an airborne landing by helicopter. In all instances first priority is assigned to combating the amphibious operation . . .. Counterattacks in defense of the seacoast can and should be conducted by second echelon forces as soon as possible.[7]

It is clear that the Soviets regard the air-landed forces as less of a threat, probably because these forces are without heavy weapons and ground mobility. They can be dealt with later.

In an attack on a Soviet-style beach defense system, the amphibious landing forces should fully expect to be engaged by the defender; (1) at sea prior to the commencement of ship-to-shore operations; (2) during the ship-to-shore movement; (3) immediately upon reaching the beach by both his fixed and mobile defenses; and (4) before a beachhead can be consolidated by means of a mechanized counterattack.

The excellent capabilities of Soviet armor are well known, and the mobility of this armor well demonstrated. Marines in the amphibious assault have never had to cope with armored forces of this kind before, and the prospect of doing so could hardly be greeted with enthusiasm.[8]

Consider the dimension of the problem from the viewpoint of the amphibious force if nuclear weapons were employed by the defender. The ships close ashore and the congested beachhead offer a tempting target for the employment of such a weapon. The effects under the present doctrine would be catastrophic.[9]

There is no doubt that the forces of the Soviet Union would present the most serious problem for the landing force, but Soviet allies, especially in the Middle East, and Communist China in Asia have the capabilities of effectively menacing any amphibious operations within their geographic spheres.[10]

Geography: a Problem for the Defense. In the previous chapter it was pointed out that the doctrine for LVT employment was developed to some extent around hydrographic and topographic conditions found in the geographic area of operations. Today's published doctrine emphasizes the importance of geographic suitability right along with the capabilities of the defenders.[11] The factor of geography will remain constant when examined in the light of any new doctrine. For example, it would be foolhardy to select landing beaches fronted by sheer cliffs with no routes of egress inland.

Col. Robert D. Heinl, writing in the *United States Naval Institute Proceedings*, envisioned Eurasia as one great landmass surrounded by sea and presenting an exposed coastline eight times that of the United States which is vulnerable to an attack from the sea.[12] It would take another research effort to study the various beaches of the world to determine the extent of suitable landing sites. A rough map reconnaissance does back up the colonel's statement.

The effect of long expanses of exposed coastline on the defensive measures taken by a potential enemy are many. He must defend the littoral regions close by his vital areas and installations. He must also have the flexibility to thwart any attempt to flank and invest these vital areas. To accomplish these ends the defender can establish an area beach defense system around po-

tential objectives of the landing force. He may, on the other hand, elect to rest his defense on a mobile response combining a standoff attack on the landing force before, during, and after the ship-to-shore movement, to be followed by a mechanized counterattack early in the buildup ashore. The defender also has the option of combining these courses of action into one.

Obviously, an enemy with a long coastline to defend is at a disadvantage. He cannot physically cover all his area with on the ground defenses without weakening his overall effort. It is reasonable to assume that he must rely to some degree on a mobile reaction force to either reinforce his beach defenses or to counterattack the landing force in its early stages of buildup ashore.

Mobility Is the Name of the Game. The amphibious force will always have the initiative as to the time and place of the attack. Initially, it has the advantage of mobility at sea, but under present doctrine, once this force is committed to a specific landing area, the mobility is lost.

It is an established fact that the speed of the ship-to-shore movement has not increased since World War II.[13] However, the ability of an enemy to destroy the landing force during this evolution has increased. Link these facts with an assortment of geographical conditions, unsettled world tensions, and unpredictable enemies of all descriptions, and the requirement to modernize the conduct of some portions of the amphibious operation becomes apparent. The Navy and the Marine Corps must be able to maximize to the greatest extent possible the inherent mobility available to the amphibious forces.

It is easy to rationalize the entire mobility problem by pointing to the third dimensional aspect of the force, the helicopter. It gives the force mobile and flexible opportunities to land troops rapidly to the flanks and to the rear of the beaches as well as to seize important objectives deep in hostile territory.[14] In this kind of role the helicopter has more than proven itself. It has become as much a part of the amphibious operation as the surface assault elements.

Alone in a counterinsurgency environment, the helicopter can be very effective, but alone on a conventional or nuclear battlefield, the marines landed by helicopter would be at a distinct disadvantage without the heavy weapons and the ground mobility necessary to defeat a mechanized enemy.

The modern amphibious landing force must have the speed and mobility at sea and on the ground to match and augment its air-landed elements. A modern amphibian, properly employed, can add the needed speed and mobility to the surface assault force. Let us change the name of the game for the LVT from obstacle crossing to surface mobility.

IV—FAST AMPHIBIAN DELIVERY: A DOCTRINE IS PROPOSED

> The success of any amphibious operation may depend on flexibility and mobility of the landing force. Diversified means of effecting a ship to shore movement and supporting subsequent operations ashore are essential to the success of the amphibious operation. A diversification of amphibian vehicles supporting varying situations in the amphibious assaut . . . magnifies the enemy's problems in defending against amphibious operations.[15]

Although this statement prefaces the *Fleet Marine Force Manual* which sets forth the present doctrine for LVT employment, it could aptly be suited to new doctrinal concepts without changing a word. Unquestionably, the foundation of any new proposal for change

must rest on "flexibility and mobility of the landing force."

The previous chapters discussed the origins of the LVT, the combat-developed concepts for its employment, and the need for a change based on a recognition that a potential enemy may have a wide variety of military capabilities to defeat an amphibious assault. Furthermore, it has been pointed out that the proven mobility of the helicopter-borne assault forces needs to be complemented by an increase in the speed and mobility of the forces put ashore by surface means.[2]

Basic Requirements. Just as any modern doctrine must be responsive to any number of scenarios of war, from the low-level guerrilla conflict to the nuclear war, in the case of the LVT it must be tailored to contain sufficient speed, mobility, and power to accomplish all amphibious missions assigned. Above all, a new doctrine must be postulated on a viable means of execution. Thus, in order to support a proposal for a new LVT doctrine, an examination of the ships and vehicles necessary to carry it forward is essential.

Twenty-Knot Amphibious Shipping. Increasing the speed of the landing force must first begin at sea. Today, the U.S. Navy is rapidly acquiring the capability to carry ground forces to an objective area at 20 knots. The fast amphibious ships capable of embarking and debarking LVT's are the Amphibious Transport Dock (LPD), the Thomason Class Landing Ship Dock (LSD), and the 1179 Class Landing Ship Tank (LST).[3]

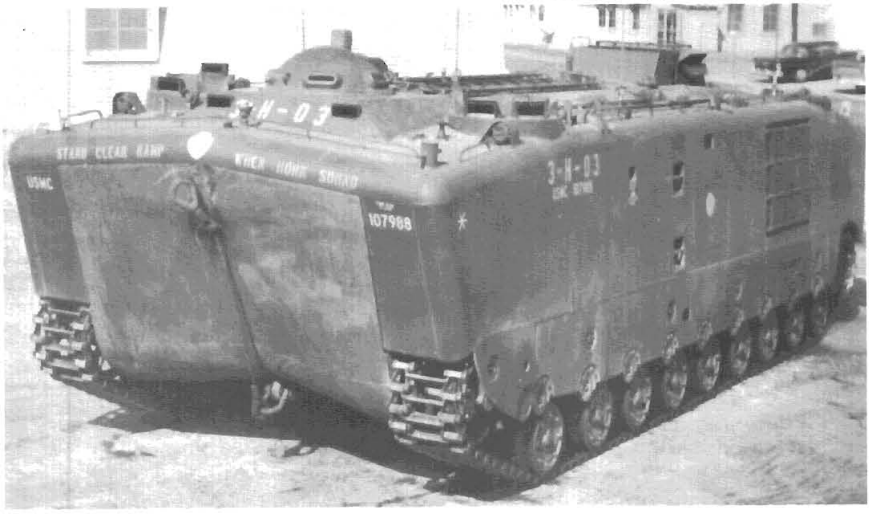
The three classes of ships mentioned are all equipped with stern ramps, allowing for the rapid debarkation of the amphibians. Both the LPD and the LSD have the demonstrated capacity for launching LVT's while fully underway, and it is hoped to demonstrate the new LST's capabilities in this regard at an early date.[4]

These 20-knot ships give the naval forces the needed speed and mobility to reduce their vulnerability at sea, while at the same time delivering their cargo of LVT's to the objective area.[5] The near future holds the promise of more ships along the same lines.

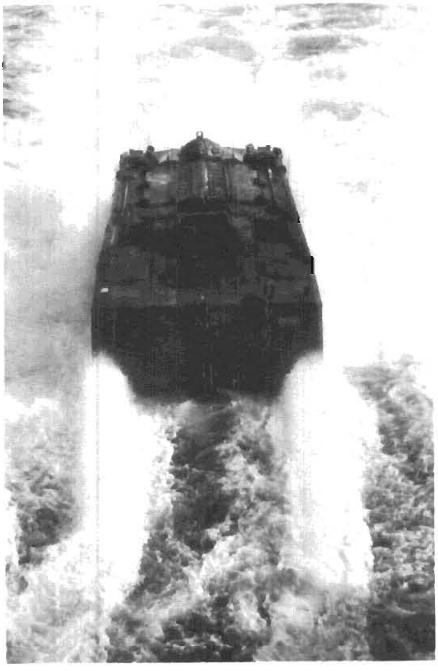
Today's Amphibian. Chapter II indicated that the Marine Corps is presently equipped with a family of amphibian tractors designed around the standard personnel and cargo carrier, the LVTP-5. In 1956 this model of LVT was introduced into the Marine Corps operating forces and represented a quantum jump in all-ground capabilities over the World War II and Korean war models.[6] These improved capabilities manifested themselves in better overland speed, larger troop and cargo capacities, vastly superior sea-keeping and surfing performance, and heavier armor protection against shrapnel, small arms fire, and the effects of nuclear radiation[7] (table II).

For its time, the LVTP-5 was an excellent amphibian. It complemented the M-48 medium tank in speed and range and performed some of the duties of an armored personnel carrier. This amphibian can still offer a degree of speed and mobility to a fast amphibious assault force.

Unfortunately, the effects of 13 years of continuous service are showing. In addition to age, the vehicle's inherent limitations due to the compromise between the land and water capability, together with certain glaring weaknesses of the vehicle discovered in extended operations in Vietnam, degrade the LVTP-5's ability to play a role in a fast mobile amphibious assault. Examples of some specific limitations and weaknesses include: (1) Maintainability of an aging piece of equipment; (2) High fuel consumption rates of 2.4 gallons per *mile* on land and 47 gallons per hour in the water; (3) Limited speed and maneuverability while waterborne; (4)



LVTP-5 (1956)



LVTP-5

Presents a large, flat, vertical, and horizontal target to enemy gunners; and (5) High vulnerability to antitank mines due to the location of the fuel cells in the bilges of the vehicle. When an LVT contacts a mine, the gasoline in these cells (456 gallons) almost always ignites and detonates.[8]

It is not surprising, then, that the Marine Corps has a new tracked amphibian under development and test at this time. This new LVT should be ready for introduction into the Fleet Marine Force by fiscal year 1972.[9]

LVTPX-12: Implement for a Change in Concept. Near the end of September in 1967, at the facilities of the FMC Corporation in San Jose, Calif., this writer watched an odd-shaped tracked vehicle speed around a test track at 40 miles per hour, navigate a manmade pond in excess of 8 knots, and while still waterborne stop and turn about within its own axis. The vehicle was the first prototype of the LVTPX-12. It will eventually be configured into four other types of amphibians.[10]

To date, 14 PX-12's, 1 CX-2, and 2 RX-2's have been delivered to the Marine Corps for test and evaluation. So far, indications are that the vehicle will live up to or exceed its advertised specifications.[11]

A close inspection of the impressive characteristics of the LVTPX-12 (table III) points out the advantages of this

TABLE II—CHARACTERISTICS OF THE LVTP-5*

General	
Crew	3
Troops	34
Armament	(1) 30 cal. Machine Gun
Weight w/12,000 lb. load	81,780 lbs.
Ground Pressure	8.59 psi
Fuel Capacity	456 gals.
Performance	
Range, land @ 20 mph	190 mi.
water @ 6.8 mph	57 mi.
Speed, land	30 mph
water	6.8 mph
Forward Slope	70%
Side Slope	60%
Trench Crossing (width)	12 ft.
Vertical Obstacle (height)	3 ft.
Dimensions	
Length	29 ft. 8 in.
Width	11 ft. 8⅓ in.
Height	10 ft. ⅓ in.
Cargo Compartment, length	15 ft.
width	7 ft. 3 in.
height	5 ft. 6 in.
Engina	
Make and Model	Continental (gasoline V-12)
Displacement	1,790 cu. in.
Horsepower	810 hp.
Transmission	
Make and Model	Allison 850 Cross-drive
Speed Ranges	2 speeds forward; 1 reverse

*U.S. Marine Corps, *FMFM 9-2,* p. 181-184.

vehicle over the LVTP-5. Any number of comparisons could be made between them, but, primarily in the context of implementing a new concept, the foremost advantages can be listed as speed in both environments, a less volatile fuel (diesel), a less vulnerable location of that fuel, longer range, and a significant increase in mobility and maneuverability, particularly in the water.[12] The only trade-offs in capabilities have been in the troop and cargo carrying capacities. As far as maintainability is concerned, the LVTPX-12 requires only one-third the man-hours of maintenance required by the older LVTP-5. This is an important factor when considering sustaining a fast-moving and prolonged amphibious campaign.[13]

Clearly, by fiscal year 1972, the amphibious forces of the Navy and the Marine Corps will have the ships and amphibians with which to mold an efficient and modern force. The coral atolls which brought forth the LVT may well be gone forever as amphibious battlefields. The time is ripe for a change.

Some Proposals for Change. The need for a change in the method of assaulting across an enemy beach has long been recognized and discussed in detail in military periodicals of the

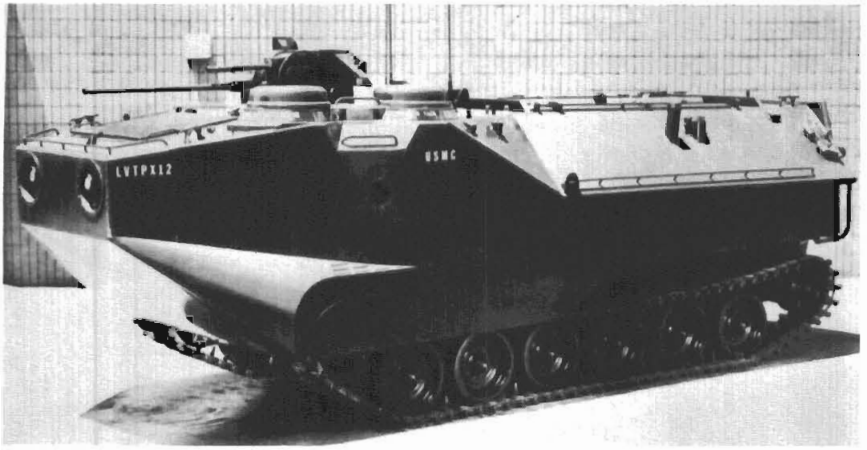
post-World War II and Korean war periods. The principal concern of the writers was the danger to the beachhead from an armored counterattack.[14] As time passed, the concern of some military thinkers directed itself *toward the vulnerability* of the entire amphibious force to nuclear weapons and the guided missile. Several authors decried the lack of speed with which the ship-to-shore movement is executed.[15] However, very few proposals which can be considered within the realm of plausibility have been proposed. Of the propositions for a change, only three of them offer some attractive possibilities for use in developing a new concept for the employment of LVT's.

The first of these is the direct delivery of LVT's and tanks to the beach by LST. This procedure would eliminate the ship-to-shore movement for the slow

TABLE III—CHARACTERISTICS OF THE LVTPX-12*

General	
Crew	3
Troops	25
Armament	20 mm. Rapid-fire w/coaxial 7.62 mm. M.G.
Weight w/10,000 lb. load	50,000 lbs.
Ground Pressure	7.7 psi
Fuel Capacity	180 gals.
Performance	
Range, land @ 25 mph	300 mi.
water @ 8 mph	70 mi.
Speed, land	40 mph
water	8.4 mph
Forward Slope	60%
Side Slope	60%
Trench Crossing (width)	96 in.
Vertical Obstecle (height)	36 in.
Dimensions	
Length	26 ft.
Width	10.5 ft.
Height	10.3 ft.
Cargo Compartment, length	14 ft.
width	6 ft.
height	5.5 ft.
Engine	
Make and Model	Detroit Diesel V-8
Displacement	424 cu. in.
Horsepower	400
Transmission	
Make and Model	FMC HS 400
Speed Ranges	4 speeds forward, 2 reverse
Water Propulsion	
Primary	Water Jets
Secondery	Tracks

*FMC Corporation, Ordnance Division, *LVTPX-12, Assault Amphibian Personnel Carrier* (n.p.: 1968), p. 4.



LVTPX-12

amphibian and allow for the immediate employment of tanks at the beachhead line. It was considered that the LST was no more vulnerable to enemy attack while beached than it was while anchored offshore in a transport area.[16] The disadvantages to this proposition are principally that it limits the selection of landing sites to those which hydrographically support the LST and that a significant portion of the landing forces' eggs would be in one basket without the ability to maneuver independently under fire.

The second of the concepts is probably the most imaginative and may be an answer to the problem in the future. The proposal is for a 60-knot landing force capable of placing both troops and heavy mechanized units ashore at that high speed. The principal vehicle involved in this doctrine is the Surface Effect Ship (SES). Some smaller models of this type of hovercraft are operational today, but the vehicle intended to support this concept is still in the development stage. It is envisioned that the giant SES's would be launched from amphibious ships positioned over the horizon from the landing beach. It is claimed that the SES is not affected by high sea state or heavy surf. With this vehicle the landing force could execute a 60-knot ship-to-shore movement and have the troops, tanks, and LVT's together, ready to deal rapidly with an enemy's armored counterattack forces.[17] The only disadvantage to the proposal is that at this time, or in the near future, the SES will not be available to the landing force. It could be a concept for the 1980's, however.

The last proposed concept which requires an examination, in the light of new doctrine for LVT employment, is that of a quick amphibious reaction force. This proposition is based around the utilization of the LPD as a base of operations for a Marine Battalion Landing Team (BLT) to conduct amphibious operations. The BLT with its LVT's and its helicopters would launch both surface and air assaults on an enemy beach from the same ship. The LPD is capable of supporting such a force for a sustained combat period ashore of 15 days. The real advantage of this proposal is that the BLT commander's command and control problem is simplified by locating his diverse elements on one ship. Along with the basic concept, this proposal includes a technique for launching LVT's from the LPD while fully underway to reduce the vulnerability of the ship-to-enemy missiles, submarines, and shore batteries.[18] This

Naval War College Review, Vol. 23 [1970], No. 1, Art. 1

underway launch technique, although not entirely new in eonecpt, offers an attractive foundation upon whieh to build a new doetrinc for LVT employment.

The Underway Launeh: a Foundation for a New Doctrine. The proeedures for an LVT to dehark from an LSD or an LPD whilc the ship is on the move have been tested and found completely feasihle. As early as 1965 the Marine Corps and the Navy were involved in perfeeting the techniques to be employed by both the ship and the amphihian in such an evolution. Through a series of tests, reliable proeedures have been estahlished.[19]

For the sake of an example, consider an LPD underway at 20 knots. It lowers its stern gate to a point level with the well deek within which the LVT's, ready for launch, are located. The ship ballasts down so that only 12 to 18 inehes of water cover the stern gate and the after portion of the well deck. The ship is then ready to launch its amphihians. At this point, the LVT's roll down the well deck under full power, gaining momentum so that when eaeh vehiele passes out through the ship's stern it will have sufficient speed to get free of the turbulenee of the water aft of the stern gate.

Any number of LVT's, up to the eapacity of the LPD, can be launched in this fashion. An illustration of one of numerous launch possibilities wonld be two eolumns of 10 LVT's eaeh, debarking from the ship at the same time. With a launch interval of 4 seconds between vehicles in each column, two separate waves of LVT's would be lined up and ready to proeeed to the beaeh in a little more than half a minnte. Meanwhile, the ship itself has been underway at near flank speed during the entire evolution. Not only is the ship-to-shore movement speeded up, but the ship is less vulnerable to hostile action.

The other side of the ship-to-shore coin is the movement of the LVT's from the launch point to the beach. Once the vehicles are waterborne, the speed of this movement hecomes a factor of the speed of advanee of the amphibians and the distance from the launeh point to the beach. To shorten the time of this evolution, technology has increased the speed of the amphibian. The LVTPX-12 has a rate of advance in the water of 230 yeards per minute, while the LVTP-5 moves at a slower 198 yards per minute.

The obvious option available to shorten the distance to the beach would he to bring the launching ship in eloser to the shore for the debarking of its amphibians. Under the present doctrine LVT's are launched from a stationary point anywhere from 500 to 1,000 yards seaward of the line of departure. The line of departure is usually set at 4,000 yards from the beaeh.[20] Not ineluding the time necessary for the LVT's to rendezvous and form into waves, the movement time to the shore for each of these waves is 22 minutes at the minimum.

Consider the possibility of the underway launeh of these same LVT's along the LOD at 2,000 yards from the landing beach. In this case each wave could be ashore in 9.2 minutes.[21] This proeedure would significantly shorten the exposure time for hoth the amphibious ships and the portion of the landing force embarked in the LVT's.

Controlling waves launehed in this fashion poses some speeial problems. Certainly, it would not be feasible to launch and reeover wave guide boats while the ship is moving at 20 knots. Nevertheless, the requirement still remains to guide the waves of LVT's to a proper landing site on the beach, as well as to control the speed of advance of the waves so that they arrive at the shoreline at a time whieh closely coineides with the lifting of the shore bombardment. Why not utilize a helieopter for this purpose? Properly

equipped, this versatile machine could move along with the waves of LVT's, controlling their movements by means of voice radio circuits, and marking the center of the landing beach with smoke rockets. These airborne wave guides can operate from the launch ship, thus simplifying the pre "D-day" briefings and coordination. Another bonus feature, which might be worth exploring, is the capability of these same helicopters to provide some sort of additional fire support for the assault waves as they touch down on the beach.

Formations used by the LVT's after launch can generally take two basic forms. As illustrated by figure 2, the LPD or LSD moving along the LOD debarks the vehicles so that they are lined up in a column moving in the opposite direction from the track of the ship. From this position the LVT's have the option of executing a flanking movement and proceeding ashore in the traditional on-line formation or turning in towards the beach and moving the entire distance in a column. Of course, the on-line formation offers the optimum dispersion of forces and should be used if the landing is opposed at the beach. The column formation should be considered if the landing is to be made under conditions of low visibility where control of the wave may prove difficult. The column can also be employed where the landing would not be opposed at the beach and the need for rapid deployment of the force inland is anticipated. The assault force, without stopping at the shoreline, could move directly inland to seize vital areas, reinforce helicopter-landed forces, or engage a mobile defense unit of the enemy.

The unique advantages of the underway launching of LVT's over the present stationary launching methods are impressive. Primarily, the speedup of the ship-to-shore movement and the reduced vulnerability of the amphibious shipping stand out. The disadvantages foreseen are minimal. The command

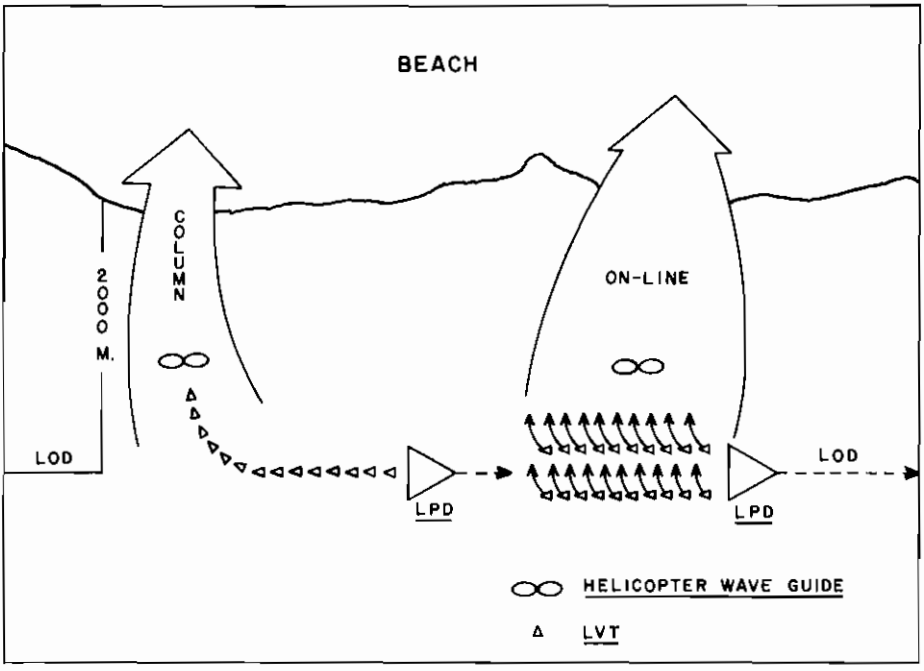


Fig. 2.—Underway Launch of LVT's.

and control problem can be overcome by the use of helicopters as wave guides. Weather and sea state may prove more critical when launching underway, but these considerations also have a significant effect on the present doctrine.[22]

Using the technique of underway launch, together with increased capabilities offered by the LVTPX-12 for ground mobility, a doctrine can be proposed which may allow the tracked amphibian to play a more useful role on the modern battlefields of the 1970's.

Fast Amphibian Delivery (FAD): a Proposal. Broadly conceived, a new doctrine for the employment of LVT's would have to provide for: (1) Speed and maneuverability of the landing force; (2) An organization of resources with sufficient combat power to defeat a fixed beach area defense system; (3) Sufficient flexibility to either neutralize or destroy a mobile enemy force in the landing area; and (4) The rapid reinforcing of the helicopter assault units. It must be recognized that the LVT is but a means to deliver combat forces to a point of application in an objective area. Infantry, tanks, artillery, naval gunfire, and close air support are required ingredients which must be present in any amphibious operation.[23] With these elements available as constants, a fast amphibian delivery concept can be proposed.

The cornerstone of the concept is the underway launch previously discussed. This technique satisfies the speed and maneuverability requirements of the new doctrine. In order to provide for the remainder of the criteria, it becomes necessary to organize the surface assault forces embarked in LVT's into three basic units, a Beach Assault Force (BAF), a Mobile Attack Force (MAF), and a Link-Up Force (LUF). As indicated by their titles, each of these forces would be tasked to accomplish a portion of the overall amphibious mission.

The BAF would be assigned the primary mission of seizing the beachhead, to hold and defend it so that follow-on forces and vital logistics could be brought ashore. It would have to be capable of assaulting a fortified beach defense as well as consolidating its positions rapidly once the initial resistance is overcome.

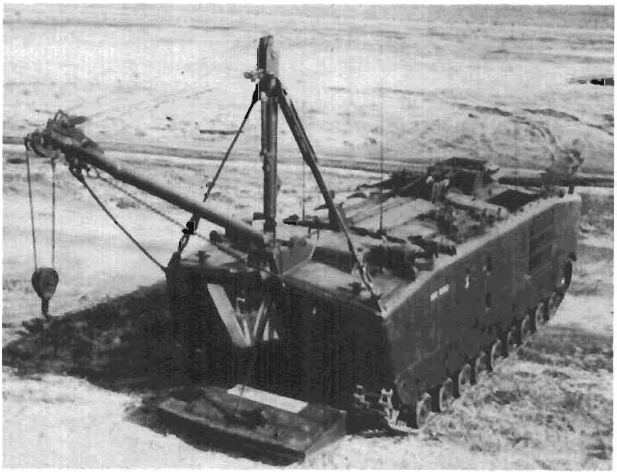
The MAF is the maneuver element of the landing force. Its mission would be twofold: (1) To land on the flanks of the BAF to support that force in the securing of the beachhead, or (2) To move directly inland and seek out and destroy any enemy mobile force which could threaten the beachhead operation.

The LUF is the reinforcing element of the landing force. Its primary mission would be that of breaking out of the beachhead area and rapidly moving inland to join the helicopter-landed units. The LUF will provide these air-landed elements with much needed heavy combat power and ground mobility.

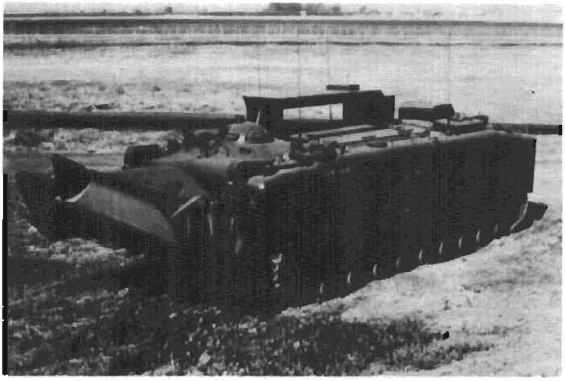
The LVT composition of these three components will vary with the size of the landing force and the situation which may be encountered ashore. The number of troop carriers depends on whether a Battalion Landing Team (BLT), Regimental Landing Team (RLT), or larger forces are to be employed. The number and disposition of the LVTH, with its 105 mm. howitzer, and the LVTE, with its mine clearance apparatus, will depend on the enemy situation. Generally, the BAF will have the preponderance of these vehicles supporting its assault on a defended shoreline.

The real "fly in the ointment" for the MAF and, to some extent, for the other forces is the immediate availability of tanks ashore. This problem has plagued planners for many years. The LVTH has a limited antitank capability, but it is too lightly armored to slug it out with enemy tanks.[24] Close air support can assist in the interdiction of enemy armored units. But when it comes to engaging enemy tanks on the

LVTH-6



LVTE-1



LVTR-1

(U.S. Marine Corps photos)

grounnd, the best weapon available is another tank. Tanks do not float, so they must be delivered to a point by landing craft (LCU or LCM), whereby they can proceed ashore with the waves of LVT's already launched. All of these landing craft have the speed and endurance to be launched from amphibious shipping positioned over the horizon,[25] and, if carefully guided and controlled, rendezvous with the LVT force as it launches underway. Admittedly, this procedure is a weakness in the concept, but with some experimentation and effective training, it could be made a viable method of employment.

An imaginative use of the forces as organized under the total FAD concept would open many new options to the modern landing force, while posing a considerable defensive problem for a potential enemy. When confronted with the possible threat of an amphibious assault, the defender of a long, exposed coastline must decide whether he can afford to cover his entire coastline with personnel and fortifications and by doing so lessen his ability to defend his territory in depth, or defend only logical landing sites close by his vital areas, leaving the remainder of his coastline to be defended by mechanized forces located inland. Although he has other options which could be anticipated, basically they would fall somewhere within the two presented.

The amphibious force, on the other hand, has the initiative. It can select the most favorable time and place for its assault. With this in mind, some scenarios can be developed to portray the Fast Amphibian Delivery concept in meaningful terms.

Using figure 3 as an illustration, picture the landing force launching the assault waves of the BAF against a thinly defended stretch of beach. The launch is conducted underway along the LOD which is established at 2,000 yards off shore. The initial waves of the BAF are composed of LVTH's to provide assault fires during the movement

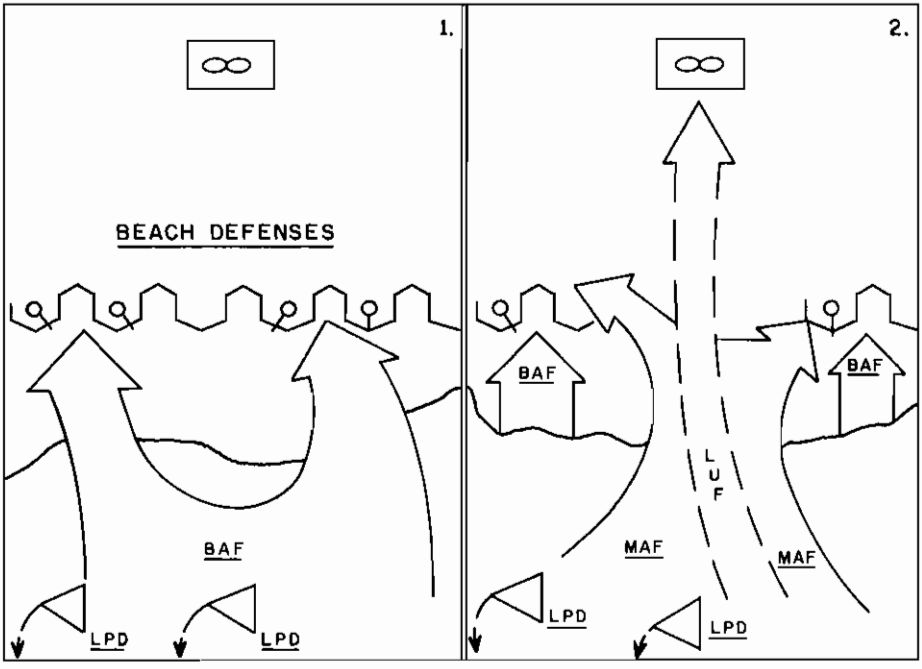


Fig. 3.—The FAD against a Thin Beach Defense Area.

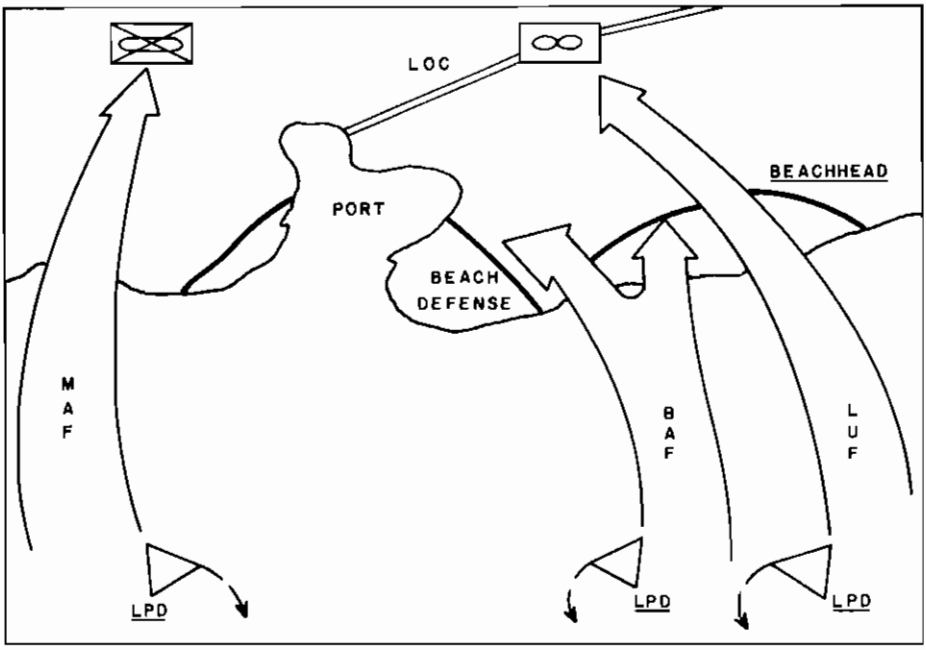


Fig. 4.—The FAD against a Concentrated (Limited Area) Beach Defense Supported by a Mobile Defense Force.

ashore, LVTE's to breach minefields and obstacles, and the personnel carriers with the infantry and their organic weapons to attack and seize the beach defenses. Following close behind these forces would be those of the MAF. Once ashore, the MAF, utilizing its built-in shock power and mobility, could penetrate through the fortifications and exploit this penetration by attacking the exposed enemy flank and rear.

To complete this admittedly oversimplified scenario, the employment of the LUF must be considered. Simultaneously with the beach assault, a force would be landed by helicopter astride the enemy's lines of communication well behind the beach defenses. Once the Mobile Attack Force has opened a gap in the beach defenses, the LUF is called ashore. The same ship-to-shore method as employed by the BAF and the MAF would be used, except that this force could move directly to the beach in column. Without stopping, the LUF could move inland through the penetration and link up with the helicopter-borne elements of the landing force.

Another scenario could describe a situation in which an enemy has set up a concentrated beach defense system around desirable landing sites close to obvious amphibious force objectives. He has established his mechanized units inland in a position to cover unprotected areas of his coastline, as well as to be able to reinforce his beach defense system. It is within this type of situation that the speed, mobility, and flexibility of the FAD concept could be exploited to the fullest.

The key to success against an enemy defense deployed in the manner described is in neutralizing or destroying his mechanized units. To accomplish this end, speed is of the essence. As shown in figure 4, the amphibious force, again using the underway launch technique, lands both the BAF and the MAF simultaneously at separate locations

over undefended beaches which flank the enemy's fortified positions. At the same time, the helicopter-borne force is landed well behind the defender's mechanized elements. The MAF moves rapidly inland to engage the mechanized force and the BAF consolidates its beachhead. If the terrain around the beachhead cannot support the follow-on landing of support units, heavy equipment, and supplies, the BAF could be given the mission to assault the enemy's defenses from the flank. The defender is then faced with elements of the landing force approaching his forces from three separate directions. Once he has committed his mechanized elements to a specific course of action, the LUF can be landed to bolster helicopter-borne units or, depending on the situation, to act as a reserve element for either the BAF or the MAF.

These brief scenarios were intended to illustrate, by example, the application of the Fast Amphibian Delivery concept in its broadest form. Certainly, with modification, it has other uses.

In an insurgency situation, the concept would allow the landing force to rapidly protect vital installations and population centers from guerrilla units, and utilize the mobility of the force to keep these same guerrilla units off balance.

The FAD concept can also have applications in a daytime or nighttime amphibious raid. As the success of a raid depends primarily on surprise and speed of execution, the insertion of a raiding force at any number of points along an enemy's coastline is a logical use for the LVT and the underway launch technique.

Problem Areas. Like any new and untested idea, the Fast Amphibian Delivery concept contains several areas which may pose some difficult problems. The issue of the integration of the tank elements into the Mobile Attack Force has already been discussed, but it will remain the foremost soft spot in the concept.

Command and control over the various forces will present the amphibious task force commander and the landing force commander with a real challenge. Coordination and communication between elements will be essential to success. Any breakdown in either one of them will spell disaster for the operation. As far as the helicopter wave guide concept is concerned, it would be a significant improvement if it could be used under the present doctrine.

The difficulties of logistical support of a rapid-moving, vehicular-mounted landing force require special consideration. Although the LVTPX-12 has a combat range of 300 miles, it will require fuel and spare parts support for sustained operations ashore. The requirement for ammunition, rations, and water will always exist. The FAD concept does allow for the faster development of the beachhead, which would in turn put within the realm of possibility a more rapid buildup of a logistical support base ashore. To speed up the movement of supplies and equipment ashore, however, new concepts may be required.

From Proposal to Doctrine. The initial requirements which were set forth at the outset of this chapter for a proposed change to the LVT employment doctrine can be met. It has been shown that the speed of the ship-to-shore movement can be increased, the vulnerability of the amphibious force can be lessened, and when properly organized, the surface landing force embarked in LVT's can be a mobile and effective factor on the modern amphibious battlefield.

Concepts from which doctrine can be established must meet more than theoretical tests. They must be tested under controlled operational exercises. As there is a real need for new doctrine, let us not wait to recognize this fact amid

the wreckage and debris of a modern-day Betio.

V—CONCLUSIONS AND RECOMMENDATIONS

> The history of warfare shows that the basic strategic asset of sea-based peoples is amphibious flexibility. In tackling land based opponents, they can produce a distraction to the enemy's power of concentration that is advantageously disproportionate to the scale of force they employ and the resources they possess.
>
> But for full advantage this flexibility needs to be coupled with rapidity in exploitation. For the distraction-effect is likely to diminish once the landing takes place. . . .[1]

This statement, written by one of the eminent military scholars of recent times, B.H. Liddell Hart, sounds the keynote for amphibious warfare and its application by the United States in the prosecution of any maritime campaign. By extracting the phrase, "flexibility needs to be coupled with rapidity in exploitation," the role of the tracked amphibian in modern amphibious warfare can be brought sharply into focus.

Flexibility and Rapid Exploitation: the Modern Role. The tracked amphibian is a vehicle with a two-dimensional capability. With the arrival on the scene of the new LVTPX-12, possessing significantly improved performance characteristics in both dimensions, the part it can play in the assault from the sea can be expanded to capitalize on these improvements. This expansion could have the ultimate effect of increasing the ability of an amphibious force to succeed against any potential enemy, regardless of the composition and disposition of his military units. The means to this end is the proposed Fast Amphibian Delivery concept.

The incorporation of this concept as part of the doctrine for amphibious operations would provide the landing force with a flexibility of action and a mobility on the ground that it has not always enjoyed with the present equipment and doctrine. It would expand the role of the LVT to that of a real amphibious armored personnel carrier, capable of rapidly moving troops ashore, forming the nucleus of mobile task forces, and transporting its cargo of men and equipment to the critical areas of the battlefield.

What of the remainder of the amphibious force? While this is beyond the scope of this paper, it can be concluded that in order to implement the proposed concept, a number of changes will be necessary in the overall composition and the employment of other elements of the force. Chapter IV touched on the need to keep the 20-knot amphibious ships on the move so as to reduce their vulnerability to attack. In addition, modifications will have to be made to the phased buildup of logistical support, so that it will be more responsive to a

BIOGRAPHIC SUMMARY

Maj. Robert C. Caldwell, U.S. Marine Corps, has had extensive experience with amphibious operations and amphibian vehicles. He has served in AMTrac battalions in three different Marine divisions, including an assignment as Commanding Officer of the 1st AMTrac Battalion of the 3d Marine Division operating in the Republic of Vietnam. Having been an instructor in amphibious tactics as well as a participant in actual operations, Major Caldwell is in a unique position to evaluate the effectiveness and weaknesses of our present amphibious doctrine. Major Caldwell graduated from the University of California in 1955 with a bachelor's degree in history and from the Naval War College, School of Naval Command and Staff, Class of 1969.

more fluid and fast-moving scheme of maneuver ashore. Undoubtedly, there will be other factors which will have to be considered during the course of making the FAD concept a viable doctrine, but only through test and experimentation will they be isolated.

Recommendations. Under the National Security Act of 1947, the Marine Corps is charged with the responsibility to develop, in coordination with the other services, those aspects of amphibious warfare that deal with tactics, techniques, and equipment used by the landing force. It is within this context that the following recommendations are submitted:

1. That the underway launch technique be adopted as the standard method used by LVT's in the execution of the ship-to-shore movement.

2. That the proposal for the Fast Amphibian Delivery concept be studied in detail and eventually tested in amphibious training exercises, so that if the concept passes the tests for feasibility, suitability, and acceptability it could be ready in some form for the arrival of the new LVT.

3. In conjunction with the Navy, that a study be made of the organization and techniques which may be required for the support by the amphibious force of the FAD concept.

The time will soon be here when the LVTPX-12 will be placed at the disposal of Fleet Marine Force units. It would be a sheer waste of its capabilities to employ this advanced amphibian under doctrine that could be executed by Roebling's Alligator. It is necessary to update the LVT's role in amphibious warfare, because until such time as helicopters or surface effect vehicles can be produced to carry large numbers of troops and the heavier implements of war in the quantities required, the LVT will have to play an important part in the amphibious operations of the future.

FOOTNOTES

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IV—FAST AMPHIBIAN DELIVERY: A DOCTRINE IS PROPOSED

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3. Of the three ships mentioned, only the 1179 Class LST is not yet with the fleet. James B. Soper, "The Amphibious Assault Forces," *Naval Review 1966* (Annapolis: U.S. Naval Institute, 1966), p. 32.
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17. Michael J. Hanley, "A 60 Knot Landing Force," *United States Naval Institute Proceedings,* March 1967, p. 48.
18. Henderson, p. 42-43.
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20. U.S. Marine Corps, *FMFM 9-2,* p. 18.
21. The times indicated here are based on the capabilities of the LVTPX-12. The LVTP-5 would take 25.2 minutes under the present doctrine and 10.7 minutes if launched underway.

22. For training purposes, the LVTP-5 can operate at sea when the surface wind waves do not exceed 6 feet and the swells are no greater than 10 feet. The LVT can safely negotiate a surf of up to 10 feet in height. U.S. Marine Corps, *Safety Procedures for LVTP-5 Family of Vehicles*, TI 2320-15/2 (Washington: 1961), p. 2-3.
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24. Tompkins, p. 19-23.
25. U.S. Marine Corps, *FMFM 9-2*, p. 173-180.

V—CONCLUSIONS AND RECOMMENDATIONS

1. Basil H. Liddell Hart, "Foreword," to Heinl, *Soldiers of the Sea*, p. vii.

Ψ

Amphibious flexibility is the greatest strategic asset that a sea power possesses.

B.H. Liddell Hart: Deterrence or Defense, 1960

Clausewitz asserted that military force was in essence a means of achieving foreign policy objectives. During the last decade the ability of the U.S. military forces to achieve such objectives has been constrained in a variety of ways by the civil rights movement. It is important that the military recognize these constraints without rejecting the legitimate aspirations of the civil rights movement.

CONSTRAINTS OF THE NEGRO CIVIL RIGHTS MOVEMENT ON AMERICAN MILITARY EFFECTIVENESS: A SURVEY

An article prepared by

Commander George L. Jackson, U.S. Navy

School of Naval Command and Staff

The Negro civil rights movement in the United States has been in process for more than a century, constituting a significant element in the continuing struggle for greater individual freedom. Prior to World War II, American military institutions contained many of the same patterns of racial prejudice prevalent in the general society. The cross-cultural exchanges and multiracial situations resulting from World War II dramatized the basic morality of equal rights for all peoples and races. The sweeping changes which characterized the racial patterns of post-World War II American society were witnessed in the Nation's Armed Forces, and in many instances the Armed Forces were able to accommodate better to the necessary changes than the greater society.

While progress toward greater Negro civil rights was considerable during the two decades prior to 1960, many contended that the pace of change was too slow and advocated a departure from legal procedures. Negro civil rights activity became increasingly marked by illegitimate measures that challenged the legitimacy of established authority and instilled fear within the general population. When a significant segment of the society regarded civil rights activity as dangerous and reacted with suppressive measures, the civil rights movement took on the trappings of a revolution.

The Negro civil rights movement will continue to exert significant influence upon every aspect of American society in the immediate future. The nation's military establishment has been affected by the movement in much the same manner as principal social institutions. The morality of the movement notwithstanding, the Negro civil rights action has introduced definite constraints on the military capability of the United States.

The most important of these constraints is that produced by the coalition of civil rights organizations and the

antiwar organizations. This coalition has spearheaded the shift of public opinion away from support of the Vietnam conflict. On the surface it would appear that the two do not possess sufficient common goals to justify such an alliance, but the concern of the civil rights leaders over the priority accorded Vietnam vice domestic reform programs has caused them to align themselves with the antiwar group.

The identification of the civil rights movement with the antiwar enthusiasts was given its greatest impetus in April of 1967, when the late Reverend Dr. Martin Luther King took a strong public stand on the issue. Labeling the American Government as "the greatest purveyor of violence in the world," Dr. King called for a halt in the bombing of North and South Vietnam, a unilateral cease-fire, the withdrawal of American troops, and negotiation with the National Liberation Front. He urged all blacks and "white people of goodwill" to boycott the draft by seeking conscientious objector status until his program was achieved. Dr. King indicated that there were three primary reasons which compelled him to take a stand against the Vietnam war: first, an awareness that the war was "playing havoc with domestic destinies" and making it more difficult to implement programs to deal with the economic and social problems of the Negro and poor people generally; second, a fear that constant escalation of the war could lead to a grand war with China and another world war; and third, the extension to international affairs of his personal philosophy of nonviolence.[1]

While Dr. King did not gain the immediate adherence of other civil rights leaders to his position on the Vietnam war, he was a man of international stature and the acknowledged leader of the American Negro civil rights movement. His influence among Negroes was great, and his association with the antiwar groups was of profound significance on the national scene.

The growing public disillusionment with the Vietnam war, of which Dr. King's declaration was an essential part, made it more difficult for the military to conclude the war in Vietnam by reducing its ability to generate effective military-political pressure. A group of 14 American scholars asserted this in December of 1967. These men, some of whom were authorities on Asian affairs, warned that the risk of confrontation would increase unless means of accommodation were found by nations possessing interests in the Pacific. In addition, they stated:

> Hanoi is placing considerable hope at present upon the theory that the United States will end in Vietnam as did France—forced to accept defeat by a combination of internal political considerations and external pressures. As long as the Communists believe in this likelihood, they will take their present hard-line position. Only when they decide that the internal political resources of the United States match in some degree its external military power will any solution other than our unconditional surrender become feasible. In this sense, the outcome is being decided on the streets and in the homes of America as in the jungles of Vietnam. Both the government and its critics should face up to these facts.[2]

Just as the civil rights movement has served as a restraint upon the ability of American forces in Vietnam to complete their mission, so it has altered and restricted the use of military resources. The very purpose of American intervention—to guarantee the South Vietnamese people the right of self-determination—has helped focus the attention of the problem of minority

rights in the United States. It has demanded a consistency of policy in which civil rights and equality of opportunity for members of American minority groups have had to be considered in Department of Defense planning.

During his tenure Mr. Clifford observed that the Department of Defense had not been doing its share to promote domestic social aspects of life which are essential to the preservation of the Nation's fundamental institutions. Observing that the Department of Defense consumes 9 percent of the gross national product and employs 4½ million persons, he stressed the moral obligation of the Department to contribute to the social needs of the country. To this end he directed key Department officials, including service Secretaries, to propose measures which might be adopted to alleviate pressing domestic problems.[3] While it is not unusual for military resources to be employed in domestic situations, particularly during time of emergency or disaster, the assumption of additional domestic or social functions, such as police duties, must be expected to produce a corresponding drain on military capability. The quality and quantity of military forces available for employment, hence overall military capability in support of U.S. foreign policy, will be reduced to the degree that military resources are diverted to domestic programs.

Secretary Clifford further commented that American citizens have reason to expect—and even demand—that more of the time and resources of the Defense Establishment be committed to domestic problems. Although noting that the Department of Defense was not a primary instrument of social welfare and that nothing could be permitted to interfere with the performance of national defense, he pledged greater interest in the fields of housing, medical care and facilities, education, and employment commensurate with his Department's demonstrated experience and interest. He cited Project 100,000, which admitted to military service a limited number of men who did not meet minimum intellectual entrance standards, as one specific instance of such action. He termed Project 100,000 a "spectacular success," with 90 percent of the personnel involved performing satisfactorily on active duty.[4]

The most apparent effect that the civil rights movement has had upon military force employment has been the necessity of using troops to quell civil disturbances. The National Guard has traditionally been used for this purpose. During the fiscal year 1968, 104,665 National Guardsmen were called to quell civil disturbances, many of which were precipitated by the assassination of Dr. Martin Luther King. National Guard units were alerted for possible commitment in civil disturbances 77 times in 29 states and the District of Columbia. About one-fourth of those units alerted were used to quell disturbances in Detroit, Washington, and Chicago. The Detroit disturbance alone required 10,399 active duty Guardsmen and 5,547 active Army personnel to restore order.[5] In February of 1969 the Guard was also called to the campus of the University of Wisconsin to quell student disorders stemming from demands to establish a Negro curriculum and increase numbers of Negro students and faculty members. This was the first case in which Guardsmen were used to restore order on campus.[6]

The riots of 1968 produced changes in the organizational structure of the National Guard. A Department of Defense executive agency for civil disturbance matters was created within the Department of the Army, and emphasis was placed on the Guard's training for handling such matters. In addition, authority was granted for assembling and training Guard units on short notice when intelligence reports indicated a high probability that forces would be

required to quell civil disorder. The need for a Directorate for Civil Disturbance Planning and Operations with a permanent command center to handle concurrent civil disorder emergencies was also demonstrated.[7]

The direct influence of the civil rights movement on a specific military operation and underlying policy was witnessed in February 1967 when the U.S. Navy aircraft carrier U.S.S. *Franklin D. Roosevelt* made an operational visit to Capetown, Republic of South Africa. On 1 February, Negro leaders attending the third annual meeting of the American Negro Leadership Conference urged President Johnson to cancel the carrier's scheduled visit to Capetown and characterized the call as "an insult to American Negroes, to the black people of Africa, and to democratic men throughout the world." The African nation's apartheid policy was cited as the basis for the objection to the visit.[8]

The following day U.S. Navy sources indicated that the visit could not be canceled, despite opposition from civil rights leaders and Congressmen, because of the needs for fuel and shore liberty incident to the ship's 13,400-mile voyage from Southeast Asia to Mayport, Fla. The alternative to the visit would be to dispatch a fleet oiler on a 45-day voyage costing at least $250,000 to provide the fuel required for the carrier if the visit were canceled.[9]

Subsequent reports revealed that while *Roosevelt* called at Capetown on 4 February—based on a decision made at "the highest level in Washington"—the 3,400-man crew remained aboard during the port visit. Since the *Roosevelt* visit, U.S. Navy ships have been denied permission to call at ports in the Republic of South Africa.[10]

The American Negro civil rights movement has also tended to constrain military capability by competing with the Defense establishment for available Federal funds. Advocates of greater Federal aid to programs designed to improve the general situation of the Nation's minority groups, particularly in urban areas, recognize that substantial reductions in defense appropriations might free funds which might be channeled into domestic areas. One such advocate of greater emphasis on domestic social problems, Senator Eugene McCarthy, criticized policies which placed military action in Vietnam before domestic problems:

> The most important struggle for the future welfare of America is not in the jungles of Vietnam; it is in the streets and schools and tenements of our cities. Yet the commitment of resources and moral energy to the problems of our cities has been but a fraction of the amount committed to the Saigon regime.[11]

Professor Alfred G. Buehler, Director of the Public Finance Center at the University of Pennsylvania, considers that the 1967-68 struggle between Congress and the administration illustrates the severity of contemporary problems related to the formulation, control, and financing of Federal programs. While aspects of this struggle have been present in the past, he considers that the racial disturbances, riots, urban unrest, and other recent disorders associated with the Negro movement have suddenly thrust the problem of Federal financing to the fore.[12] Although the underlying pressures of poverty, unequal income distribution, and politics have long existed, black action has placed the matter squarely before the Nation. The influence that this pressure can have on Federal budgeting could have a serious and damaging effect on the Nation's military capability should it be decided to increase Federal support to domestic problems at the expense of military force levels.

There are also demographic factors related to the Nation's military force levels which have been influenced by the civil rights movement. Sharp criticism surfaced in the spring of 1967 when reports indicated that Negroes comprised 11 percent of the total enlisted strength in Vietnam but accounted for 14.5 percent of Army combat forces and 22.5 percent of all Army troops killed in action. In response to this criticism the Department of Defense took steps to readjust force levels in order to achieve an equitable proportion and employment of Negroes in Vietnam.[13] This has wider implications in future conflicts. The military planner could conceivably be required, by the adverse publicity, to consider assignment of personnel to combat units on an accepted racial proportion rather than on combat qualifications.

Leading advocates of the civil rights movement have also been critical of the fact that 30.2 percent of qualified Negroes are drafted, while only 18.8 percent of qualified whites are inducted because of educational and other deferments. Their criticism has led to various proposals for draft reform such as the lottery system and the volunteer army, both of which would have a great effect upon the composition and hence the capability of our military forces.

Further criticisms have been leveled at the various services on account of the percentage of Negro officers and enlisted men in each. Negroes at present comprise 13 percent of the Army, 10 percent of the Air Force, 8 percent of the Marine Corps, 5.6 percent of the Navy, and 1.26 percent of the National Guard. Because of educational differences, the proportion of Negro officers to white officers is consistently less than that of Negro enlisted men to white enlisted men. Efforts to bring these ratios into line with the ratio of whites to Negroes in the general population would have a marked effect on the military. Such efforts have already been initiated by the Defense Department in relation to the National Guard.[14] In an effort to implement the recommendations of the National Advisory Commission on Civil Disorders, the Defense Department is expected to attempt to raise Negro membership to approximately the proportion of Negroes in the general population.

Military capability cannot be evaluated only in terms of force levels or employment. The factor of morale is extremely important, and a low morale on the part of Negro personnel lessens their effectiveness and that of the forces to which they are assigned.

Negro military personnel are exposed to a variety of conditions and influences which would tend to reduce their loyalty to the United States and its military forces. The most important of these is, perhaps, hostility among their fellow servicemen. The likely effect of racial dissention upon military effectiveness has been recognized by the Department of Defense. Reacting to an increasing number of reports of growing tensions between whites and Negroes in military organizations, Secretary of Defense Melvin R. Laird called upon military commanders to ensure that racial differences were removed.[15]

The Negro serviceman also faces discriminatory practices in his dealings with civilians, the Civil Rights Act of 1964 notwithstanding. While the Federal Government has undertaken to eliminate such discriminatory practices, it is still obvious to many Negro servicemen that they are not welcome in the housing, schools, and churches of some of the Nation's communities, and this does not fail to affect their morale.

Another extremely important factor in this situation is the appeal of Negro militants and civil rights leaders. The late Dr. Martin Luther King struck directly at the motivation of Negro military personnel when he asserted that the Vietnam war was an instrument of "Negro genocide" forged by America's

"white masters."[16] Other Negroes have sought to enlist American servicemen in militant civil rights organizations, and radical students groups have urged election of officers, unionization of enlisted personnel, and the abolition of the salute and privileges of rank. It would be naive to think that such statements and appeals have no effect on the motivation and loyalty of Negro servicemen. Negro servicemen are, in fact, torn between appeals to their racial pride by civil rights organizations and the demands of military service.

Certain aspects of the antimilitary phase of the civil rights movement have been discussed previously. Aside from his basic objection to war, Dr. King based his objection to the Vietnam war on its effects on the civil rights effort, and the disproportionate burden on Negro military personnel. He considered the war was rooted in the militaristic nature of American society, and he observed: "... you can't really have freedom without justice, you can't have peace without justice, and you can't have justice without peace, so it is more of a realization of the interrelatedness of racism and militarism and the need to attack both problems rather than leaving one."[17]

Senator J. William Fulbright has been an outspoken critic of recent American military and foreign policy, particularly the Vietnam war. In the following he employed the issue of the civil rights movement to support his objection to the Vietnam war by suggesting that two wars are occurring simultaneously:

> One is the war of power politics which our soldiers are fighting in the jungles of Southeast Asia. The other is a war for America's soul which is being fought in the streets of Newark and Detroit and in the halls of Congress, in churches and protest meetings and on college campuses, and in the hearts of silent Americans from Maine to Hawaii. I believe that the two wars have something to do with each other, not in the direct casual way that bureaucrats require as proof of a connection between two things, but in a subtler moral and qualitative way that is no less real for being intangible. Each of these wars might well be going on in the absence of the other, but neither, I suspect, standing alone, would seem so hopeless and demoralizing.[18]

Accepting his party's nomination as a presidential candidate in the 1968 presidential campaign, Richard M. Nixon expressed the implications of the civil rights movement for the Nation's world military role: "A nation that can't keep the peace at home won't be trusted to keep the peace abroad."[19]

Former Under Secretary of State Eugene V. Rostow expressed concern that the increasing tendency to seek quick solutions for the problems of poverty, the cities, and civil rights could adversely affect America's international role. While unequivocally supporting the importance of greater racial equality, he argued against action which would attempt to improve domestic conditions at the expense of international commitments: "If it is true that we cannot have a world role and a good society together, then we shall not have either one. It is no good building model cities if they are to be bombed in twenty years' time."[20]

SUMMARY

This discussion has focused on several areas in which the American Negro civil rights movement appears to be constraining the status, employment, strength, and attitude of the military forces. As a result, the Nation's capacity to pursue foreign policy objectives through military action has been

affected. Antimilitary sentiment has increased concurrent with the Negro civil rights movement. It is reflected in the competition for limited Federal resources and attention, the disaffection over America's use of force to achieve objectives, and the disenchantment with the Nation's role in Vietnam. Similarly, the employment of American military forces has been directly affected by revolutionary activity, particularly through the need to divert military forces to assist local authorities in ensuring domestic order and through the loss of the use of ports in the Republic of South Africa. The effect of the movement on force levels was evidenced by greater concern for race in the allocation of personnel to perform tasks and in criticism of the draft. Finally, it was seen that there is concern over the possible adverse effect on the attitude of Negro military personnel arising from their perception of the issues raised by the Negro movement as bearing on their military roles.

The current turmoil over the issue of greater civil rights for America's Negroes is the outgrowth of more than a century of unacceptable progress. It is likely that necessary progress could not be obtained from a continuation of nonrevolutionary measures. However, continuing vigilance must be maintained to provide a military posture that ensures this Nations's security from aggression by enemies who would seek to exploit internal weaknesses resulting from inadequate efforts to obtain the fullest benefits of the Nation for the entire population.

BIOGRAPHIC SUMMARY

Comdr. George L. Jackson received an associate of arts degree from Hartnell College in 1952 and a bachelor's degree in the social sciences from the University of Redlands in 1954. He has subsequently done graduate work at the University of Maryland and at San Diego State University in the field of sociology. As a communications specialist he has served in a variety of assignments, including naval communications stations in Guam, Morocco, and Adak, Alaska, and as the Commander of the Research and Operations Detachment on the U.S.S. *Pvt. Jose F. Valdez* (AG 169). Commander Jackson is a graduate of the Naval War College, School of Naval Command and Staff, (1969) and is currently assigned to the Naval Facility, Danang, South Vietnam.

FOOTNOTES

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3. Clark M. Clifford, "The Defense Establishment—Domestic Development," *Vital Speeches,* 1 November 1968, p. 35.
4. *Ibid.*
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6. "Troops Sent to U. of Wisconsin," *The New York Times,* 2 February 1967, p. 2:4.
7. U.S. National Guard Bureau, p. 16.
8. Thomas A. Johnson, "Call at Capetown by Ship Opposed," *The New York Times,* 2 February 1967, p. 2:4.
9. Benjamin Welles, "Navy Stands Fast on Capetown Visit," *The New York Times,* 3 February 1967, p. 10:2.
10. "Apartheid Keeps Crew on U.S. Ship," *The New York Times,* 5 February 1967, p. 1:4, 26:1.

11. Eugene J. McCarthy, *First Things First: New Priorities for Americans* (New York: New American Library, 1968), p. 20.
12. Alfred G. Buehler, "The Cost of Democracy," *The Annals*, September 1968, p. 11.
13. Ulysses Lee, "The Draft and the Negro," *Current History*, July 1968, p. 47.
14. "Negro Membership in Guard Declines," *The Providence Journal*, 24 March 1969, p. 1:2, 8:3.
15. "Laird Warns of Growing Race Tensions in Services," *Navy Times*, 28 May 1969, p. 33:2.
16. *The United States in World Affairs 1967* (New York: Simon and Schuster, 1968), p. 5.
17. "Dr. King to Weigh Civil Disobedience if War Intensifies," p. 76:1.
18. J. William Fulbright, "The Price of Empire," *Vital Speeches*, 1 September 1967, p. 678-679.
19. Richard M. Nixon, "Acceptance Speech," *Vital Speeches*, 1 September 1968, p. 676.
20. Eugene V. Rostow, "Another Round in the Great Debate—American Security in an Unstable World," *Vital Speeches*, 15 November 1967, p. 70.

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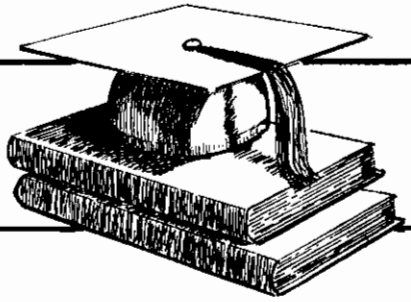
There is a time for all things: there is even a time for change; and that is when it can no longer be resisted.

Duke of Cambridge, 1819-1904



PROFESSIONAL READING

Cagle, Malcolm W. *The Naval Aviation Guide.* 2d. ed. Annapolis: U.S. Naval Institute, 1969. 401p.

The second edition of *The Naval Aviation Guide* is an informative and comprehensive publication which contains many items of interest and value to the professional naval pilot. A glance at the table of contents will disclose a wide spectrum of subjects, most of which are arranged in a logical and interesting manner.

The serious reader of this publication could acquire the knowledge and understanding necessary to become a better pilot and naval officer as well as an ambassador of good will for naval aviation. For these reasons *The Naval Aviation Guide* should be on the bookshelf of every squadron commanding officer and department head.

The publication's weak point is chapter 4, wherein the authors and editors make the recurring mistake of equating "leadership" to the broader spectrum of "management." In formal management training throughout the Navy, the naval officer is taught that leadership, albeit important, is only one principle of the managerial function of directing. However, in various publications in the Navy, including this one, the reader is led to believe that all that is necessary "... to accomplish the Navy's mission through people ..." is to become a leader by mastering the art of leadership. Leadership's position and value in the overall picture seems to have been overstated at the expense of the other principles of management and functions of a manager.

Admittedly, *The Naval Aviation Guide* may not be the appropriate place to present a short, informal course in management. Nonetheless, chapter 4 could be improved by avoiding the implication that mastering the art of leadership is a panacea for the managerial problems facing the Navy at the operator level. Instead, it should stress that leadership is a necessary part of management rather than vice versa. Leadership is not an end within itself, but only a means toward an end. Such phrases as "... effective leadership is based on personal example, good management and moral responsibility ..." would seem to indicate the converse.

In essence, this reviewer is arguing for a more realistic and pervasive approach toward "grass roots" management training within the Navy. It is believed that there is a better way to integrate behavioral theories with traditional management concepts without emphasizing only one aspect of the problem, i.e., leadership.

E.E. HANSON
Lieutenant Commander, U.S. Navy

Fenwick, Charles G. *Foreign Policy and International Law.* Dobbs Ferry, N.Y.: Oceana, 1968. 142p.

Professor Fenwick has written this volume ostensibly so that the "man in the street" will have a guide to enable him better to identify the interfaces

between U.S. foreign policy and that body of jurisprudence that is recognized as international law. A brief historical introduction to the development of international law in the first chapter is followed by analysis of the consistencies and inconsistencies of major U.S. foreign policy decisions in relation to the points of international law then prevailing. It is clear from this analysis that in her pursuit of national objectives through her foreign policy, the United States has, for the most part, been in consonance with the accepted law, and where she has deviated she has given due notice of her intentions and reasons therefor. The book also points out the constraints on foreign policy which operate as a result of attempting to follow the law consistently and the consequences that may ensue from deviating from international standards of legality.

Professor Fenwick is the unusual writer on international law who is capable of translating the concepts of that law into prose understandable by the layman. His style is lucid, and his discussions are much to the point, with a notable absence of jargon. This book is consistent with those characteristics. It falters in only two respects. Firstly, the book presupposes a considerably greater storehouse of knowledge of the history of U.S. foreign policy than one would normally expect the man in the street to possess. Secondly, it is dangerous to isolate incidents of foreign policy out of historical context in that it necessitates oversimplifications which are not conducive to an understanding of the issues involved. Thus, to say that the Foreign Ministers of the Organization of American States decided to intervene in the Dominican Republic in 1965 (p. 59) would seem to be an oversimplification of a complicated series of events more political in nature than a look at the law would reveal. The questions posed at the end of each section of the book, particularly those asking for justification of certain acts, reflect this lack of historical background, since the answers in most cases may be found in the diplomatic history of the event itself. Despite these shortcomings, this book is highly recommended reading for those interested in perceiving international law in its proper perspective, i.e., in relation to the international diplomacy from which it derives many of its salient features.

J.E. WESSEL
Commander, U.S. Navy

Feuer, Lewis S. *The Conflict of Generations.* New York: Basic Books, 1969. 543p.

As Professor of Philosophy and Social Science at the University of California, Berkeley, Lewis Feuer had an unusual opportunity to observe the Berkeley student uprising. These observations reinforced his belief that all student movements follow the same pattern and led to his writing *The Conflict of Generations* in which he analyzes past student movements to show the recurring traits. The emphasis of his analysis is on the psychological factors that determine lines of thought and action. Although students feel that their focus of attention is on society, Professor Feuer believes that human nature in the form of generational conflict is the real source of student unrest. In his view, if "exploitation" is the master term for defining class conflict, "alienation" is the term for the conflict of generations. Reviewing the characteristics of student movements during the past 150 years, and particularly those of the sixties in the United States, he presents a strong case for his thesis that every student movement is the outcome of a "de-authorization" of the elder generation, presumably through some historical failure. "They arise wherever social and historical circumstances combine to cause a crisis in loss of generational confidence, which impels the young to resentment and uprising." The

student desire to identify with a social issue, such as civil rights, is a secondary component and results from feelings of guilt combined with altruistic emotions. These conflicts have repeatedly resulted in the most idealistic student movement converting itself into a blind, irrational power hostile to liberal democratic values and have led to eventual self-destruction. It is Professor Feuer's hope that, through exposure, the self-destructiveness and guilts of generational revolt can be reduced in order to gain the benefits of the students' idealism. Fortunately, considering its length, *The Conflict of Generations* is really two books in one. For the scholar there is detailed analysis of numerous student movements and up to nine pages of footnotes and source material at the end of each chapter. For the reader whose interest is confined to concern over the social unrest in the United States, the chapters of the book relating to foreign student movements can be skipped with little loss of understanding.

The Conflict of Generations is interesting, easy to read, and affords the over-30 generation a much needed insight into the motivations that drive the more radical elements of the young.

E.H. STEENTOFTE
Commander, U.S. Navy

Kissinger, Henry A. *American Foreign Policy*. New York: Norton, 1969. 143p.

The three essays which comprise this compact volume were written by Dr. Kissinger before he assumed his present position as President Nixon's Special Assistant for National Security Affairs. For all its compactness this book has a great deal to offer to anyone desiring a better perspective and understanding, not only of American foreign policy, but of the structure and nature of the international system as well. The first essay, "Domestic Structure and Foreign Policy," looks at the widely differing social and political systems in the world and outlines the problems that they pose for international relations. For the purposes of this essay, the author concentrates on the administrative systems and the backgrounds of national leadership groups in order to analyze how these affect the conduct of international affairs. One of the many incisive points made in this essay is that those who have succeeded in reaching the top in the Communist leadership have had to be "single-minded, unemotional, dedicated, and, above all, motivated by an enormous desire for power." This, says Kissinger, dictates against Soviet leaders' accepting declaration of good will at "face value." In his second essay, "Central Issues of American Foreign Policy," Kissinger stresses the "structural and conceptual problems rather than specific policy issues." The key root word is "concept," a word quite appropriate to the overall thesis that the author weaves in each of these essays. In this particular article the concern is that the United States must formulate clear conceptions of the kind of world order and structure she is looking for, and, at all times, the right questions must be asked about the whole essence of American foreign policy. The Nixon administration's intensive review of U.S. foreign policy is probably linked, at least in part, with Kissinger's ideas as here expressed. The last selection, "The Vietnam Negotiations," is the well-known article which first appeared in this year's January issue of *Foreign Affairs*. This essay—as well as the others for that matter—deserves careful reading, even if one has already read it or feels that he knows enough about it because of the amount of comment the article elicited.

As is customary with most of Kissinger's writing, these articles are not only perceptive and illuminating, but very well written indeed. This does not mean that one quick reading will give full value. A second or even third perusal will prove even more rewarding.

This is an excellent volume, especially suited to the curricula of the War College's first few months.

J.N. LACCETTI
Lieutenant Colonel, U.S. Air Force

Le Masson, Henri. *The French Navy.* New York: Doubleday, 1969. 2 v.

The French Navy was handicapped in many ways during the Second World War. Within a year all of the Atlantic and Channel ports were occupied by German forces, while French African possessions were threatened by De Gaulle's Free French movement. The action at Oran and the seizure by the British of all French vessels in ports under their control deprived the French Fleet of much of its fighting power, and the scuttling of the vessels in Toulon in 1942 further reduced its resources.

Henri le Masson has collected in two volumes a valuable historical reference work for the French Navy during World War II and during the interwar period. The average reader will be interested mainly in volume I, which describes the warships of the French Navy. Volume II deals with sloops, minesweepers, and other small auxiliary vessels.

In addition to the reference sections, the author begins his first volume with a brief commentary which sheds valuable light on French naval planning during the interwar years. In it he expresses criticism of the Popular Front government of Leon Blum and the social laws which that government enacted, claiming that they slowed down the rearmament efforts of the Third Republic.

In dealing with the 1940 defeat, the author defends the loyalty which the major units of the navy gave to the Vichy regime. He is critical of the British operation at Oran, pointing out that orders had already been given Admiral Darlan not to surrender the fleet—orders which were obeyed at Toulon 2 years later. As he was himself a naval liaison officer in London at the time, his opinion on this matter is relevant.

While the primary benefit of this effort is its research effort, compiled from official sources, the author does neglect to discuss certain important facts about the French Navy. During these years, ship designs were very general in nature, and the details were usually supplied by engineers in the naval yards. This improvisation resulted in great variations in layout and performance.

A second factor the author fails to consider is the wisdom of allocating large resources to the French Navy at a time when the obvious enemy would be invading by land. Masson notes that the navy absorbed 21 percent of the French military budget until 1938, but he does not address himself to the question of whether such an expenditure was justified in the light of France's strategic situation. The French were naturally unwilling to rely on the British for the protection of their colonies, but could they, in fact, maintain simultaneously an army strong enough to contain Germany and a navy strong enough to play an independent role? The author apparently thinks this was possible, but the verdict of history leaves the question open to doubt.

D.G. WHITE
Ensign, U.S. Naval Reserve

Marmion, Harry A. *Selective Service: Conflict and Compromise.* New York: Wiley, 1968. v.p.

This book is a short, but informative, effort to analyze the Selective Service System. The author's intent is to demonstrate the shortcomings of the present "draft" and to point up the need for reforms in the law beyond those incorporated in the 30 June 1967 Act (Public Law 90-40) which amended the existing Universal Military Training and Service Act. The volume contains a valuable brief history of the Selective Service

System and an equally valuable discussion of the nation's manpower needs as related to effort seeking an equitable basis for deferment policy. The author's conclusion is that although selective service in some form is necessary, the present system is outmoded and should be abolished. It is unable fairly to cope with a situation in which only a relatively small portion of the nation's available manpower pool is required at any given time. The result, he contends, is that the burden of military service tends to be borne disproportionately by low-income families in no position to engage in deferrable activities.

Mr. Marmion discusses the major alternatives to the present Selective Service System and concludes that a random selection or "lottery" system is an absolute necessity, especially during periods requiring less than total manpower mobilization. A voluntary army is dismissed as a useful concept, after discussion leading to the implication that it is not economically feasible and to the inference that it would be morally repugnant in a democratic society. The author feels that necessary manpower to maintain national security should be raised in such a way that everyone is called upon to share the burden and that an all-volunteer system would create a socially and economically isolated elite. Universal military training is also considered impractical because of the cost and because the number of men reaching the eligible age at any given time exceeds military requirements. National service is considered a possible means of selectivity, utilizing all available manpower in an acceptable manner; however, to date, the high cost, vagueness of proposals for its inception, and the colossal problems of coordination among various Government agencies render any immediate achievement unlikely.

Mr. Marmion makes it apparent that he is no fan of Lt. Gen. Lewis B. Hershey, the Selective Service Director, upon whom he places much blame for failures to reform the system; this approach tends to place his objectivity in some doubt. The book is well documented, however, and in three appendices contains the 1967 report of the Civilian Advisory Panel on Military Manpower Procurement to the House of Representatives (Clark Report), a summary of the Report of the National Advisory Commission on Selective Service (Marshall Report), and Public Law 90-40 with Executive Order 11360 of 1967 amending the selective service regulations, making it a valuable reference work in an area which should be of professional interest to the military officer.

R.P. HANSON
Lieutenant Commander, U.S. Navy

Moynihan, Daniel P. *Maximum Feasible Misunderstanding.* New York: Free Press, 1969. 218p.

According to Dr. Moynihan, social programs such as the war on poverty and community action, which were based on maximum feasible participation by those people who should benefit from the programs, failed because of a phenomenon called "maximum feasible misunderstanding." In this well-written book the author explains the failure of the Great Society. Dr. Moynihan delves into the enormity and complexity of the problems associated with improving the lot of the underprivileged element of contemporary American society. Isolation of the real problems of the underprivileged, though difficult, is an ongoing project that has made significant progress. The search for solutions to these problems, according to the author, has not progressed nearly so far. While the Government has the financial wherewithal, it possesses insufficient knowledge to use its money effectively in solving the problems. The close relationship between political power and money guarantees, at least for the present, political control of antipoverty

programs and prohibits direct control of funds by professional social scientists. These social scientists do not have the answers either, but they might, according to Dr. Moynihan, discover them more rapidly if given the funds to experiment. The logical compromise is political control with professional advice. However, when professional advice conflicts with current political practice, current practice prevails, and the existing social unrest continues. The author gives no solutions, but he does present a clear picture of the problems. This book is recommended for those who are interested in furthering their understanding of present-day social problems in this country.

S.L. RITCHIE
Lieutenant Commander, U.S. Navy

Trumbull, Robert, *This Is Communist China.* New York: McKay, 1968. 274p.

In this book the author has recast the observations of a team of nine Japanese journalists and academic specialists who completed an extensive 3-month tour of Communist China in late 1966 and early 1967. These observations were originally written for the average readers of a Japanese daily newspaper. The reporters saw the cultural revolution as stemming from a fierce political struggle within the Chinese Communist Party, particularly between Mao Tse-tung and Liu Shao-chi, representing the hard line and the more moderate view, respectively. Throughout the book, in the recorded conversations with various Chinese, the love for and worship of Mao are reflected. The people believe that he is responsible for leading them out of the "bad old times," and their sayings provide fuel for the fire of propaganda upon which Mao lays so much emphasis. Also important in the support of propaganda and revolution are the famous wall posters which played such an important role in the dissemination of news to the Chinese people regarding the progress of the cultural revolution. Quite apparent to the observers was the attempt by the Chinese Communists to rewrite ancient history and to remold the people, especially the youth. The Red Guards' average age was 17, and they stressed the importance of the group rather than the individual—and effort to produce "the socialistic man." The Japanese were impressed with the material progress of China and the improvement of sanitary conditions, transportation, and industry. However, they noted that the Chinese standard of living was considerably lower than that in Japan and other industrialized countries.

The extreme hatred of the Chinese for the United States is stated over and over, and much of the propaganda activity is directed against the "cowardly United States." It is concluded that Mao has no intention of reaching a compromise with the United States concerning a Vietnam settlement. Although the army is Mao's greatest source of strength today, the military strength of Communist China is evaluated as an unknown factor.

In spite of extensive Chinese rhetoric, this book is most interesting reading. It does give one a certain feeling for the existing conditions in China, at least as seen through Japanese eyes.

G.L. SUMMERS
Commander, U.S. Navy

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